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APPENDIX A

Defendant's Supplemental Brief

Docket No. 159205

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STATE OF MICHIGAN

IN THE CIRCUIT COURT FOR THE COUNTY OF GENESEE

A TRUE COPY
Genesee County Clerk

CALEB GRIFFIN,

Plaintiff,

v

Hon. Joseph J. Farah
Case No.: 14-103977-NI

SWARTZ AMBULANCE SERVICE
and SARAH ELIZABETH AURAND,

Defendants.

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ORDER REGARDING DEFENDANT SWARTZ AMBULANCE SERVICE'S MOTION FOR LEAVE TO AMEND LIST OF AFFIRMATIVE DEFENSES

At a session of said Court held in
the City of Flint, County of Genesee
and State of Michigan on _____.

PRESENT: _____
Honorable Joseph J. Farah, Circuit Court Judge

Defendant, Swartz Ambulance Services, having filed a Motion for Leave to Amend List of Affirmative Defenses, oral arguments having been heard, and the Court being fully advised in the premises;

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IT IS HEREBY ORDERED that the motion is:

☑ Granted

☐ Denied.

IT IS FURTHER ORDERED as follows:

D may file affirmative defenses
P may file an amended complaint by end of discovery if any.
Discovery may remain open for 90 days.
~~until~~ ~~Trial~~

☐ ***This resolves the last pending claim and closes this case.***

☐ ***This does not resolve the last pending claim and does not close this case.***

JOSEPH J. FARAH
P-30439
CIRCUIT COURT JUDGE 3/21/16

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APPENDIX B

Defendant’s Supplemental Brief

Docket No. 159205

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STATE OF MICHIGAN

COURT OF APPEALS

CALEB GRIFFIN,

Plaintiff-Appellant,

v

SWARTZ AMBULANCE SERVICE,

Defendant-Appellee,

and

SARAH ELIZABETH AURAND,

Defendant.

UNPUBLISHED
November 29, 2018

No. 340480
Genesee Circuit Court
LC No. 14-103977-NI

Before: M. J. KELLY, P.J., and SAWYER and MARKEY, JJ.

PER CURIAM.

Plaintiff appeals by right the trial court's order granting summary disposition in favor of defendant Swartz Ambulance Service for the alleged negligence of its driver, Mary Shifter, who was involved in an accident while transporting plaintiff to a hospital for medical treatment. The trial court determined that defendant was immune from liability under MCL 333.20965(1), which is part of the emergency medical services act (EMSA), MCL 333.20901 *et seq*. We affirm.

In 2012, plaintiff was involved in an automobile accident in which he sustained a leg injury, including a dislocated knee. One of defendant's ambulance units responded to the scene and began transporting plaintiff to the hospital. On the way to the hospital, the ambulance collided with a vehicle driven by Sarah Aurand. A second ambulance then transported plaintiff to the hospital.

Plaintiff filed this action against Aurand and defendant,[1] alleging, in pertinent part, that defendant's employee, Mary Shifter, a licensed emergency medical technician (EMT) and the

[1] The singular term "defendant" will be used to refer to defendant Swartz Ambulance Service.

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driver of defendant's ambulance, was negligent in causing the second accident, that this negligence delayed plaintiff's treatment for his original injury, and that the delay in treatment resulted in a portion of plaintiff's leg being amputated. Defendant moved for summary disposition pursuant to MCR 2.116(C)(8) and (10), arguing that it was immune from liability pursuant to MCL 333.20965(1), which establishes immunity for EMTs and other medical first responders who provide services in the treatment of a patient absent a showing of gross negligence or willful misconduct. Defendant argued that plaintiff's allegations and evidence established, at most, that Shifter was negligent; therefore, it was immune from liability under the EMSA. The trial court agreed and granted defendant's motion. Plaintiff later agreed to dismiss her negligence claim against Aurand. Plaintiff now challenges the trial court's order granting summary disposition in favor of defendant.

We review a trial court's summary disposition decision de novo. *Spiek v Dep't of Transp*, 456 Mich 331, 337; 572 NW2d 201 (1998). A motion under MCR 2.116(C)(8) tests the legal sufficiency of the plaintiff's complaint by the pleadings alone. *Id*. All well-pleaded factual allegations in the complaint are taken as true, as well as any reasonable inferences or conclusions that can be drawn from the allegations. *Peters v Dep't of Corrections*, 215 Mich App 485, 486; 546 NW2d 668 (1996). Summary disposition should be granted only if the claims are so clearly unenforceable as a matter of law that no factual development could justify recovery. *Id.* In contrast, a motion under MCR 2.116(C)(10) tests the factual support for a claim. *Spiek*, 456 Mich at 337. The court must consider the pleadings, affidavits, depositions, admissions, and other documentary evidence submitted by the parties, and view that evidence in a light most favorable to the non-moving party. *Babula v Robertson*, 212 Mich App 45, 48; 536 NW2d 834 (1995). Summary disposition should be granted if, except as to the amount of damages, there is no genuine issue of material fact and the moving party is entitled to judgment as a matter of law. *Id.* The proper interpretation of a statute is a question of law, which this Court reviews de novo. *Dressel v Ameribank*, 468 Mich 557, 561; 664 NW2d 151 (2003).

At issue is whether the grant of immunity established under the EMSA applies to the alleged negligence of defendant's ambulance driver, Shifter, with respect to her operation of the ambulance while transporting plaintiff to a hospital for treatment. Resolution of this question requires this Court to interpret and apply the EMSA. As explained in *Dressel*, 468 Mich at 562:

> It is the cardinal principle of statutory construction that courts must give effect to legislative intent. When reviewing a statute, courts must first examine the language of the statute. If the intent of the Legislature is clearly expressed by the language, no further construction is warranted. [Citations omitted.]

If a statute's language is clear and unambiguous, this Court assumes that the Legislature intended its plain meaning, and the statute will be enforced as written. *Omelenchuk v City of Warren*, 466 Mich 524, 528; 647 NW2d 493 (2002). "In reviewing the statute's language, every word should be given meaning, and we should avoid a construction that would render any part of the statute surplusage or nugatory." *Id*. (citation and quotation marks omitted). Judicial construction of a statute is only permitted when the statute is ambiguous. *Noll v Ritzer*, 317 Mich App 506, 511; 895 NW2d 192 (2016). An ambiguity exists when a term is equally susceptible to more than one meaning or there is an irreconcilable conflict with another provision. *Id.*

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MCL 333.20965 provides, in relevant part:

> (1) Unless an act or omission is the result of gross negligence or willful misconduct, *the acts or omissions of a medical first responder, emergency medical technician*, emergency medical technician specialist, paramedic, medical director of a medical control authority or his or her designee, or, subject to subsection (5), an individual acting as a clinical preceptor of a department-approved education program sponsor while providing services to a patient outside a hospital, in a hospital before transferring patient care to hospital personnel, or in a clinical setting that are consistent with the individual's licensure or additional training required by the medical control authority including, but not limited to, services described in subsection (2), or consistent with an approved procedure for that particular education program *do not impose liability in the treatment of a patient on those individuals or any of the following persons*:
>
> * * *
>
> (d) The life support agency or an officer, member of the staff, or other employee of the life support agency. [Emphasis added.]

MCL 333.20906(1) defines "life support agency" to mean "an ambulance operation, nontransport prehospital life support operation, aircraft transport operation, or medical first response service." Thus, MCL 333.20965(1)(d) extends the immunity granted by the act to an ambulance service, such as defendant. In addition, among the persons entitled to immunity under MCL 333.20965(1) are EMTs and "medical first responder[s]." A "[m]edical first responder" is defined in MCL 333.20906(8) as

> an individual who has met the educational requirements of a department approved medical first responder course and who is licensed to provide medical first response life support as part of a medical first response service *or as a driver of an ambulance that provides basic life support services only*. Medical first responder does not include a police officer solely because his or her police vehicle is equipped with an automated external defibrillator.

Although the definition of medical first responder indicates that an ambulance driver may qualify for immunity under the EMSA, it is still necessary to determine whether Shifter's operation of the ambulance in this case qualifies as conduct involving "the treatment of a patient" within the meaning of MCL 333.20965(1). Plaintiff argues that defendant is not entitled to immunity because Shifter's operation of the ambulance, a motor vehicle, did not involve "the treatment of a patient."

Preliminarily, we note that prior decisions of this Court have distinguished between emergency and nonemergency situations in analyzing the scope of immunity available under the EMSA. See, e.g., *Knight v Limbert*, 170 Mich App 410; 427 NW2d 637 (1988) (applying a former version of the EMSA and holding that the EMSA did not apply when the plaintiff was a nonemergency patient who was being transferred to another hospital in an ambulance under nonemergency circumstances). Plaintiff notes that the ambulance's siren and flashing lights

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were not activated at the time of the accident, indicating that the ambulance was being driven in a nonemergency manner. But MCL 333.20965(1) does not distinguish between emergency and nonemergency situations. In addition, MCL 333.20908(6) defines a "patient" as "an emergency patient or a nonemergency patient." This definition indicates that the "treatment of a patient" under MCL 333.20965(1) may encompass treatment to a patient in a nonemergency. Viewed together, MCL 333.20908(6) and MCL 333.20965(1) plainly do not impose a condition that only services offered by first responders in emergency situations are entitled to immunity.

Because MCL 333.20965(1) does not define the term "treatment," we may consult dictionary definitions to determine the ordinary meaning of the term. *Koontz v Ameritech Servs*, 466 Mich 304, 312; 645 NW2d 34 (2002). The *Merriam-Webster's Collegiate Dictionary* (11th ed) defines the term "treatment," in relevant part, as follows:

> **a:** the act or manner or an instance of treating someone or something: HANDLING, USAGE <the star requires careful ~ > **b**: the techniques or actions customarily applied in a specified situation.

Under this definition, the term "treatment" would include the handling of a patient in an ambulance or techniques customarily applied when caring for ambulance patients, consistent with the training of first responders. Thus, "treatment" would not be limited to actual medical services rendered to patients being transported by ambulance but would include activities by first responders acting within the scope of their duties and training as first responders.

We believe that the immunity afforded by MCL 333.20965(1) applies to Shifter's operation of the ambulance as a motor vehicle in this case where the operation was serving the needs of plaintiff, a patient seeking immediate medical care. Plaintiff was being transported from an accident site to a hospital to receive immediate medical treatment for an injury. According to Shifter and her partner, plaintiff's hospital run was considered a "Priority 2" run, meaning they wanted to get to the hospital as quickly as possible, even though the lights and siren were not activated. In this context, the term "treatment" can reasonably be construed as including the safe and timely transportation of the patient to the hospital to receive medical care. The evidence showed that (1) Shifter was a medical first responder or EMT who was part of the defendant's ambulance staff; defendant is a life-support agency; (2) defendant was providing emergency services to plaintiff when the collision occurred, and (3) the collision occurred while plaintiff was being transported to the hospital for prompt medical care. We conclude that under these circumstances, Shifter's operation of the ambulance at the time of the second accident qualifies as conduct involving "the treatment of a patient" within the meaning of MCL 333.20965(1). Accordingly, the trial court did not err by granting defendant's motion for summary disposition.

We affirm. As the prevailing party, defendant may tax costs pursuant to MCR 7.219.

/s/ David H. Sawyer
/s/ Jane E. Markey

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APPENDIX C

Defendant’s Supplemental Brief

Docket No. 159205

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STATE OF MICHIGAN

COURT OF APPEALS

CALEB GRIFFIN,

Plaintiff-Appellant,

v

SWARTZ AMBULANCE SERVICE,

Defendant-Appellee,

and

SARAH ELIZABETH AURAND,

Defendant.

UNPUBLISHED
November 29, 2018

No. 340480
Genesee Circuit Court
LC No. 14-103977-NI

Before: M. J. KELLY, P.J., AND SAWYER AND MARKEY, JJ.

M. J. KELLY, J. (*dissenting*).

The dispositive issue in this case is whether the driver of defendant's ambulance was providing treatment to plaintiff when she got into a motor-vehicle accident. Under MCL 333.20965(1), defendant is immune from ordinary negligence claims arising from its acts or omissions "in the treatment of a patient . . . ." Because I do not believe the driver's act of driving the ambulance through an intersection is part of plaintiff's treatment, I respectfully dissent.

MCL 333.20965 provides in relevant part:

> (1) Unless an act or omission is the result of gross negligence or willful misconduct, *the acts or omissions of a medical first responder, emergency medical technician*, emergency medical technician specialist, paramedic, medical director of a medical control authority or his or her designee, or, subject to subsection (5), an individual acting as a clinical preceptor of a department-approved education program sponsor while providing services to a patient outside a hospital, in a hospital before transferring patient care to hospital personnel, or in a clinical setting that are consistent with the individual's licensure or additional training required by the medical control authority including, but not limited to, services described in subsection (2), or consistent with an approved procedure for that particular education program *do not impose liability in the treatment of a patient on those individuals or any of the following persons*:

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* * *

(d) The life support agency or an officer, member of the staff, or other employee of the life support agency. [Emphasis added.]

The term "treatment" is not defined by the statute, so reference to a dictionary definition is appropriate. See *Johnson v Pastoriza*, 491 Mich 417, 436; 818 NW2d 279 (2012). According to the *Oxford English Dictionary* (2d ed), "treatment" consists of "[m]anagement in the application of remedies; medical or surgical application or service." Thus, under the plain language of the statute if an individual's acts or omissions are undertaken in the management of the application of remedies or in medical or surgical application, then they would constitute "treatment." Here, however, the record reflects that at the time of the motor-vehicle accident the ambulance driver was not undertaking any action to manage plaintiff's injuries. Rather, she was merely transporting him to the hospital while the paramedic in the patient-compartment of the ambulance provided treatment. Accordingly, because no negligent treatment is alleged, I would conclude that no immunity is afforded to defendant under MCL 333.20965(1).

/s/ Michael J. Kelly

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APPENDIX D

Defendant's Supplemental Brief

Docket No. 159205

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MICHIGAN

State Protocols

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Cancellation/Downgrade of Call Policy

Purpose: To allow cancellation or downgrading of EMS vehicles responding to an EMS incident.

I. If information is received, while en route, that the incident is not life-threatening, then that ambulance may use that information to alter response accordingly.

II. No EMS vehicle shall be canceled, once a request for emergency assistance is received, unless one of the following occurs:

A. A police/fire department unit reports that no person/accident can be found at the location,

or

B. Any licensed EMS personnel on the scene cancels the responding EMS vehicles.

MCL 333.20967 If an emergency has been declared, the declaration that an emergency no longer exists shall be made only by a licensed EMS provider or a licensed health professional who has training specific to the provision of emergency medical services in accordance with protocols established by the local medical control authority.

Note: For the purposes of this protocol, a situation in which injuries or illness have not been confirmed does not constitute an “emergency” (i.e. motor vehicle crash with unknown injuries, unknown medical alarm).

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Use of Emergency Lights and Sirens during Transport

Procedure

A. **Michigan Motor Vehicle Code** *(§257.603 and 257.653)*
The Michigan Motor Vehicle Code governs the driving of emergency vehicles. All licensed life support vehicles will abide by the Michigan Motor Vehicle Code.

B. **Transporting a Patient**

1. EMS units may transport patients using lights and sirens when:
   2. The patient's condition meets Priority One prioritization level **AND** the condition is unstable or deteriorating **AND** there is a need to circumvent significant traffic delays and obstructions
      OR
   3. The patient's condition requires immediate lifesaving intervention which cannot be accomplished by EMS personnel, with approved equipment **AND** there is a need to circumvent traffic delays or obstruction

2. Non-emergency patients will **NOT** be transported with the use of lights and siren.

C. **Authority to Require Lights and Siren Use**
Neither the patient's sending nor receiving physician has the authority to require the use of lights and siren during transport; this policy shall be followed at all times.

D. **Prudent Use of Lights and Siren During Transport**
Lights and sirens may be used to clear traffic and then shut down, if prudent, where no obstruction or delay is present, provided both lights and siren are activated at least 500 feet before any intersection or obstruction to be cleared. When lights and siren are not in use, the vehicle must be operated as a typical non-emergency vehicle, per the Motor Vehicle Code.

E. **Returning from the transport, returning to a service area**

1. EMS units may ONLY utilize lights and sirens to return to their area IF THEY ARE RESPONDING TO AN EMERGENCY CALL.
2. Lights and sirens will **NOT** be used to return to an area when the unit is not responding to another emergency call.

F. **Education**
Transporting Life Support Agencies shall ensure annual training surrounding the Michigan Motor Vehicle Code, safe use of lights and siren, this policy and related agency polices.

G. **Agency Specific Policies**
This policy does not preclude individual agencies from developing internal policies on this subject, as long as the policy includes the contents of this policy as a minimum.

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Destination and Diversion Guidelines

Purpose: To define the decision-making process regarding EMS destination.

1. **Transport Destination Decisions**

   A. In matters of imminent threat to life or limb, transport to the closest appropriate facility.

      Closest appropriate is a facility capable of providing definitive care or, if definitive care is not readily available, resuscitative care for the patient's condition in consultation with on-line medical control or as defined by protocol.

   B. In matters which are not a threat to life or limb, the patient will be taken to the closest appropriate facility or facility of his/her choice, unless:

      a. The patient is a minor, or incompetent, the family or guardian may choose the destination facility.

      b. Transportation to the chosen facility removes the EMS vehicle from the service area for an extended time. Consult medical control and an alternative may be considered.

   C. No other individuals are permitted to determine destination of patient without prior approval of on-line medical control: (police, fire, bystander physician, etc.)

2. **Patient Diversions**

   A. Once the decision is made to transport a patient to a facility, the patient may be diverted to another facility if:

      a. On-line medical control requests diversion to another facility. The facility may not deny the individual access unless it does not have the staff or resources to accept the patient.

      b. The patient experiences an imminent threat to life or clinical deterioration and, in the medical judgment of the EMS personnel, the patient may be transported to the closest appropriate facility.

      c. Documentation of the reason for the diversion shall be included in the EMS patient care record.

   B. Immediate on-line medical direction shall be established with the receiving facility.

C. Contact with the initial receiving facility shall be made as quickly as possible to inform it of the diversion.

D. Patients requesting transport to a facility, which is currently on diversion, should be notified of that diversion and the fact that the appropriate resources to care for them are not currently available at that institution. An alternative facility destination should be requested from the patient. If the patient persists in the request of the facility currently on diversion, contact medical control.

Note: Each facility has the authority to develop and administer written policies concerning the temporary closing of emergency departments. By statute, the medical control authority, based on needs of the EMS system, may determine the destination of the patient regardless of the diversion status (open or closed) of the local facilities.

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High-Risk Delivery Transport Guidelines

Purpose:
This policy is to establish guidelines for transport of women with pregnancy of more than 20 weeks and less than 34 weeks gestation in active labor, as these infants may require newborn intensive care.

1. In all cases where delivery is imminent, transport will be to the closest emergency receiving facility.

2. If labor is brought on by medical illness or injury of the mother, appropriate medical treatment of the mother is the first priority. This is also the most appropriate treatment of the newborn.

3. If time allows, any woman in active labor with a gestational period of more than 20 weeks and less than 34 weeks, in anticipation of delivery of a high risk newborn, should be taken to (list facilities and instructions for where to proceed with the patient):

   ☐

   ☐

   ☐

NOTE: This protocol was created as a template to be used for each MCA to determine the most appropriate transport decisions for the high risk OB patient in their individualized MCA areas.

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Intercept Policy (Optional for all ALS Systems)

Purpose: The purpose of this policy is to ensure that Advanced Life Support/Limited Advanced Life Support ambulances are dispatched, when available, to patients requiring Advanced Life Support/Limited Advanced Life Support levels of care.

I. Procedure

If a transport has begun by a Basic Life Support (BLS) unit, a rendezvous with an Advanced Life Support (ALS) (Limited Advanced Life Support if ALS unit not available) unit should be attempted at a mutually agreed upon location. Rendezvous is indicated if it will occur at a point which is greater than five (5) minutes from the receiving hospital. For patients in cardiac arrest being transported in BLS units, ALS intercept is indicated at any point during the transport.

A. Indications for ALS Intercept

1. All priority 1 & 2 patients

B. Indications for LALS

1. All Priority 1 patients & some Priority 2 patients as indicated by Medical Control.

NOTE: BLS unit may contact Medical Control for assistance with any situation as necessary.

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Dispatch

Purpose:
As mandated under Public Act 368 of 1978, as amended, Section 20919 (1)(b): “A local medical control authority shall establish written protocols for the practice of life support agencies and licensed emergency medical services personnel within its region. The protocols shall be developed and adopted in accordance with procedures established by the department and shall include medical protocols to ensure the appropriate dispatching of a life support agency based upon medical need and the capability of the emergency medical services system.”

Local municipalities shall determine, in accordance with the rules and regulations of their local Medical Control Authority, the level of agency licensure, as well as who will provide EMS service in their area.

Protocol

1. Public Safety Answering Points and/or Life Support Agency dispatch centers shall use Enhanced 911 technology, where available, and shall dispatch appropriate resources as quickly as possible.
2. Since ALS may provide additional medical care and delay may negatively impact patient outcome, in areas where ALS is available it shall be simultaneously dispatched to certain medical emergencies including, but not limited to:
    a. Cardiac Arrest
    b. Chest Pain
    c. Stroke
    d. Drug Overdose / Poison
    e. Altered Mental Status / Unconscious
    f. Allergic Reaction
    g. Difficulty Breathing
    h. Drowning or Near Drowning
    i. Injury with Bleeding or Immobility
    j. Seizures / Convulsions
    k. Diabetic Reactions
    l. Child Birth
    m. Burns
    n. or as determined through prioritized dispatch developed through an MCA approved EMD program.

All medical callers shall be provided with complaint evaluation and prioritization, along with pre-arrival instructions through an Emergency Medical Dispatch program approved by the MCA. Pre-arrival instructions should conform to nationally recognized guidelines.

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Lights and Sirens Response to the Scene

I. Medical Priority Response

A. Priority One – Life-Threatening or Potentially Life Threatening Emergencies Response

1. Life support vehicles, in compliance with Michigan Motor Vehicle Code, use lights and sirens while responding to the scene.

B. Priority Two – Response Per MCA Selection

☐Life support vehicles, in compliance with Michigan Motor Vehicle Code, use lights and sirens while responding to the scene.

☐Emergency Vehicles, in compliance with Michigan Vehicle Code, respond with no lights and sirens to the scene

OR

☐Only the first responding life support vehicle, in compliance with Michigan Motor Vehicle Code, responds lights and sirens to the scene. All other life support vehicles respond with no lights and sirens to the scene unless upgraded.

C. Priority Three - Non-Life Threatening Emergency Response

1. Life support vehicles, in compliance with Michigan Motor Vehicle Code, respond with no lights and sirens to the scene

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Patient Prioritization

1. Priority 1
    A. Critically ill or injured patient with an immediate life-threatening condition.
    B. Examples include, but are not limited to:
        1. Unstable or deteriorating vital signs
        2. Compromised airway
        3. Severe respiratory distress/failure
        4. Cardiac arrest or post cardiac arrest
        5. Stroke or STEMI
        6. GCS ≤ 10
        7. Significant blunt or penetrating trauma including but not limited to:
            a. Airway compromised
            b. Respiratory distress
            c. Signs of inadequate perfusion
        8. Actively seizing patient

2. Priority 2
    A. Seriously ill or injured patient without immediate life-threatening Condition.
    B. Examples include, but are not limited to:
        1. GCS 11-14
        2. Medical conditions such as chest pain, suspected sepsis, respiratory distress without immediate threat to life.
        3. Altered level of consciousness, responding to verbal or painful stimuli
        4. Significant mechanism of injury in patient with stable vital signs

3. Priority 3
    A. Ill or injured patients not fitting the above two categories who require medical attention and do not have a life-threatening problems.

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Helicopter Utilization

I. Indications for Use – in the presence of one or any combination of the following:

NOTE: These guidelines are offered as examples of patients who might benefit from helicopter transport. Additional considerations would include the physical exam, additional contributing factors such as age, mechanism of injury and the level of care available in the area.

A. Trauma Patients
   1. Priority I patient
   2. Long transport times
   3. Poor road conditions
   4. Entrapment with prolonged extrication

B. Medical Patients
   1. In rare circumstances, if in the estimation of the paramedic, that the use of helicopter resources would be beneficial to patient outcome.

II. Procedure

A. Request for helicopter service response may be approved by medical control or by medical control pre-approved guidelines.

B. Requests for helicopter by medical control or dispatch procedure.

C. Patient should be prepared for transport by air in the following manner:
   1. Patient should be stabilized and immobilized with ground ambulance equipment per existing protocol.
   2. Ground ambulance personnel will stay with the patient until released by the helicopter personnel.

D. Communications
   1. Communication with the helicopter dispatch should include information regarding location, identifying marks or vehicles and landing sites.
   2. Helicopter dispatch will request pertinent medical information to relay to the flight crew.
   3. Communications between the helicopter and ground ambulance shall be coordinated through dispatch.

E. Landing Site
   1. Locate a level, 100’ x 100’ area clear of obstacles (i.e. wires, trees)
   2. Mark landing zone with a marker at each corner and one upwind.
   3. Public safety vehicles should leave on flashers to assist in identifying site from the air.
   4. Identify obstacles close to the landing zone and communicate all pertinent information about the landing zone to the flight crew.
   5. Landing zone personnel will communicate by radio with the flight crew.

F. Safety
   1. Under no circumstances should the helicopter be approached unless signaled to do so by the pilot or flight crew.

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2. Always approach the helicopter from the front. Under no circumstances should the helicopter be approached from the rear due to the extreme danger of the tail rotor.
3. Loading and unloading of the patient is done at the direction of the flight crew.
4. Crews should crouch down when in the vicinity of the main rotor blades.

G. Patient Destination
1. Patient will be transported to appropriate facility as directed by medical control.

H. Quality Assurance
1. Helicopter services will forward copies of their patient care record to the Medical Control Authority for each scene call upon request. The Medical Director may review all helicopter activations for appropriateness.

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Communicable Disease

NOTE: The EMS provider must recognize that any patient that presents with one of the following may be potentially infectious, and must take the necessary precautions to avoid secondary exposure. These precautions include following this protocol.

- A skin rash
- Open wounds
- Blood or other body fluids
- A respiratory illness that produces cough and/or sputum

Exposure Defined:

An exposure is determined to be any breach of the skin by cut, needle stick, absorption or open wound, splash to the eyes, nose or mouth, inhaled, and any other parenteral route.

Reporting Exposures:

Police, Fire or EMS personnel who, in the performance of their duty, sustain a needle stick, mucous membrane or open wound exposure to blood or other potentially infectious material (OPIM) may request, under Public Act 368 or 419, that the patient be tested for HIV/Hepatitis B and C surface antigen. The exposed individual shall make the request on a Bureau of EMS, Trauma and Preparedness Form J427 (MDCII Form J427). The exposed individual should also report the exposure in accordance with their employer's policies and procedures.

Follow appropriate infection control procedures.

1. If a patient presents with one of the following symptom complexes, then follow the remainder of this protocol.

    A. Fever > 100.5 F with headache or malaise or myalgia, and cough or shortness of breath or difficulty breathing.

    B. Pustular, papular or vesicular rash distributed over the body in the same stage of development (trunk, face, arms or legs) preceded by fever with rash progressing over days (not weeks or months) and the patient appears ill.

2. Consider the patient to be both airborne and contact contagious. Crew will don the following PPE:

    A. N95 or higher protective mask/respiratory protection

    B. Gloves

    C. Goggles or face shield

DO NOT REMOVE protective equipment during patient transport.

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3. Positive pressure ventilation should be performed using a resuscitation bag-valve mask. If available, one equipped to provide HEPA or equivalent filtration of expired air should be used. Also see the section in this protocol “Mechanically Ventilated Patients".

4. Patient should wear a paper surgical mask to reduce droplet production, if tolerated.

5. Notify the receiving facility, prior to transport, of the patient's condition to facilitate preparation of the facility and institution of appropriate infection control procedures.

6. Hands must be washed or disinfected with a waterless hand sanitizer immediately after removal of gloves. Hand hygiene is of primary importance for all personnel working with patients.

7. Vehicles that have separate driver and patient compartments and can provide separate ventilation to these areas are preferred for patient transportation. If a vehicle without separate compartments and ventilation must be used, the outside air vents in the driver compartment should be turned on at the highest setting during transport of patient to provide relative negative pressure in the patient care compartment.

8. Patients should also be encouraged to use hand sanitizers.

9. Unless critical, do not allow additional passengers to travel with the patient in the ambulance.

10. All PPE and linens will be placed in an impervious biohazard plastic bag upon arrival at destination and disposed of in accordance with the direction from the hospital personnel.

MECHANICALLY VENTILATED PATIENTS

PARAMEDIC

1. Mechanical ventilators for potentially contagious patient transports must provide HEPA filtration of airflow exhaust.

2. EMS providers should consult their ventilator equipment manufacturer to confirm appropriate filtration capability and the effect of filtration on positive pressure ventilation.

CLEANING AND DISINFECTION

Cleaning and Disinfection after transporting a potentially contagious patient must be done immediately and prior to transporting additional patients. Contaminated non-reusable equipment should be placed in biohazard bags and disposed of at hospital. Contaminated reusable patient care equipment should be placed in biohazard bags and labeled for cleaning and disinfection according to manufacturer's instruction.

INTER-FACILITY TRANSFERS

1. Follow the above precautions for inter-facility transfers.

2. Prior to transporting the patient, the receiving facility should be notified and given and ETA for patient arrival allowing them time to prepare to receive this patient.

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3. Clarify with receiving facility the appropriate entrance and route inside the hospital to be used once crew has arrived at the receiving facility.

4. All unnecessary equipment items should be removed from the vehicle to avoid contamination.

5. All transport personnel will wear the following PPE:

    A. Gloves

    B. Gown

    C. Shoe Covers

    D. N-95 (or higher) protective mask

6. Drape/cover interior of patient compartment and stretcher (utilizing plastic or disposable sheets with plastic backing).

7. Place disposable surgical mask on patient

8. Cover patient with linen sheet to reduce chance of contaminating objects in area.

9. All PPE and linens will be placed in an impervious biohazard plastic bag upon arrival the receiving destination and disposed of in accordance with the direction from the hospital personnel.

10. The ambulance(s)/transport vehicle will not be used to transport other patients (or for any other use) until it is decontaminated using the CDC guidelines for decontamination.

11. Patient cohorting may occur if resources are exhausted and patients are grouped with same disease. Cohorting should only be utilized as a last resort.

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Infection Control

NOTE: Any information obtained or exchanged regarding communicable disease exposures must be handled with strict confidentiality.

I. Standard Precautions and Body Substance Isolation (BSI)

A. Purpose: To prevent the transmission of all bloodborne pathogens that are spread by blood, tears, sweat, saliva, sputum, gastric secretions, urine, feces, CSF, amniotic fluid, semen, and breast milk.

B. Rationale: Since medical history and examination cannot reliably identify all patients infected with HIV, or other bloodborne pathogens, blood and body fluid precautions shall be consistently used for all patients. This approach, previously recommended by the CDC, shall be used in the care of all patients. This is especially important in the emergency care settings in which the risk of blood or body fluids exposure is increased and the infection status of the patient is usually unknown.

1. Standard Precautions/BSI shall be done for every patient if contact with their blood or body fluid is possible, regardless of whether a diagnosis is known or not. This includes but is not limited to starting IVs, intubation, suctioning, caring for trauma patients, or assisting with OB/GYN emergencies.

C. Procedures

1. Handwashing shall be done before and after contact with patients regardless of whether or not gloves were used. Hands contaminated with blood or body fluids shall be washed as soon as possible after the incident.
2. Nonsterile disposable gloves shall be worn if contact with blood or body fluids may occur. Gloves shall be changed in-between patients and not used repeatedly.
3. Outerwear (example: gown, Tyvek® suit, turnout gear) shall be worn if soiling clothing with blood or body fluids may occur. The protection shall be impervious to blood or body fluids particularly in the chest and arm areas.
4. Face Protection (including eye protection) shall be worn if aerosolization of blood or body fluids may occur (examples of when to wear include: suctioning, insertion of endotracheal tubes, patient who is coughing excessively and certain invasive procedures).
5. Mouth-to-mouth resuscitation: CDC recommends that EMS personnel refrain from having direct contact with patients whenever possible, and that adjunctive aids be carried and utilized. These adjunctive aids include pocket masks, face shields or use of BVM.
6. Contaminated Articles: Bag all non-disposable articles soiled with blood or body fluids and handle according to agency procedures. Wear gloves when handling soiled articles. Bloody or soiled non-disposable articles shall be decontaminated prior to being placed back into service. Refer to manufacturer's recommendations for proper cleaning and disinfecting. Non-disposable equipment shall be decontaminated appropriately prior to reusing.

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Bloody or soiled disposable equipment shall be carefully bagged and discarded.

7. Drug/IV Bags shall be inspected and all contaminated waste removed prior to bag exchange. If the bag is contaminated, it must be spot cleaned or laundered prior to being placed back into service.
8. Linens soiled with blood or body fluids shall be placed in appropriately marked container. Gloves shall be worn when handling soiled linens.
9. Needles and syringes shall be disposed of in a rigid, puncture-resistant container. Any grossly contaminated container, or one that is within 1" of the top, should be disposed of appropriately.
10. Blood spills shall be cleaned up promptly with a solution of 5.25% sodium hypochlorite (household bleach) diluted 1:10 with water or other FDA approved disinfectant. Wear gloves when cleaning up such spills.
11. Routine cleaning of vehicles and equipment shall be done. Cleaning and disinfecting solutions and procedures shall be developed by provider agencies following manufacturer's guidelines and CDC recommendations.

D. Respiratory Isolation

1. In the event of a suspected or confirmed TB patient, an appropriate HEPA mask must be worn, in accordance with MIOSHA regulations.
2. Decontamination of equipment and vehicle after exposure to a patient with a known or suspect respiratory route of transmission shall be carried out following manufacturer's recommendations and CDC guidelines or as described in the text Infection Control Procedures for Pre-Hospital Care Providers.

II. Radio Communications

A. Anytime the unit and/or dispatcher is made aware of the potential for any communicable disease, that information should be communicated in a format that ensures that patient confidentiality is adhered to.

III. EMS Personnel Exposure to a Communicable Disease

A. Definition of a Reportable Exposure

1. Contaminated needle or sharp instrument puncture
2. Blood/body fluid splash into mucous membrane including mouth, nose, and eye
3. Blood/body fluid splash into non-intact skin area

B. Cooperating Hospitals' Responsibilities

1. Each cooperating hospital in the Medical Control region will designate an infection control contact to serve as liaison(s) with the staff of medical control and all EMS agencies for the purpose of communicating information about infectious patients or potential exposures.
2. Hospitals, upon learning that any patient has a reportable infectious or communicable disease, will check the patient chart to determine if any EMS agencies were involved with the patient prior to hospitalization. When

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determined that EMS may have had contact with the patient, designated individual will notify the EMS agency for further follow-up and complete the required State forms.

3. Hospitals, when requested to do so, will obtain lab tests and results on source patients when exposure to a pre-hospital provider has occurred
   a. Hospitals will report the results of testing on the form DCH-1179(E) and return to the address indicated on the form.
4. Hospitals will notify transporting agencies at the time a transfer is scheduled if any infection potential exists with the patient and the precautions necessary (standard precautions and/or mask).

C. Pre-hospital Agency Responsibilities
   1. Each pre-hospital provider agency will be responsible for assuring that their personnel, trainees and students are familiar with infection control procedures, epidemiology, modes of transmission and means of preventing transmission of communicable disease per CDC guidelines and MIOSHA regulations.
   2. Each pre-hospital provider agency will be responsible for supplying personnel with the appropriate personal protective equipment.
   3. It is recommended that each pre-hospital provider agency ensures adequate immunizations per CDC Immunization Guidelines for Health Care Workers.

D. Follow-up Care/Counseling
   1. Follow-up care and counseling of exposed personnel shall be the responsibility of the pre-hospital provider agency and shall be carried out without delay upon notification of exposure.

E. Summary of EMS Personnel Post-Exposure Procedures
   1. Wash exposed area very well.
   2. Affected personnel may notify ED staff of potential exposure, but ED staff may choose not to test patient until potential exposure confirmed by Medical Control.
   3. Notify agency supervisor of possible exposure.
   4. Fill out form DCH-1179(E) and forward to Medical Control.
   5. Supervisor contacts Medical Control to request source patient testing.
   6. Medical Control contacts hospital personnel to request source patient testing.
   7. Provider obtains exposure evaluation and counseling.
   8. Medical Control reviews form DCH-1179(E) for completeness and forwards to hospital infection control office.
   9. Hospital infection control office returns form with tests results to EMS agency supervisor.

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Communications Failure

Purpose: To allow for continued patient care activities in the event of a communications failure or inability to contact medical control.

Procedure

1. With a communications failure or inability to contact medical control, EMS personnel may initiate medical treatment protocols and procedures including interventions identified after the “Post-Medical Control” section.

2. Contact medical control as soon as communications can be established and inform them of the situation, including care or procedures rendered.

3. A written report describing the situation, actions taken, and description of the communication failure shall be provided to the medical control within 24 hours.

NOTE: This procedure is considered a protocol deviation and will only be used in exceptional circumstances.

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Waiver of EMS Patient Side Communication Capabilities

The State of Michigan requires advanced life support (ALS) units to have the capability of communicating by radio with medical control when away from the ALS vehicle at the patient's side. This requirement may be waived when State-approved protocols permit time-dependent medical interventions to be performed without the need to obtain on-line permission from medical control. The EMS Medical Director must indicate that local state approved protocols permit these interventions to be performed without online medical control authorization either directly in protocol, or through the **Communications Failure Protocol**.

By adopting and implementing this protocol, both the medical director and alternate medical director stipulate that life-saving interventions listed in protocol are permitted to be performed by providers without on-line medical control authorization as defined by protocol.

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Health Insurance Portability Accountability Act (HIPAA)

Purpose:

I. To provide a guideline for sharing protected health information (PHI) with entities that function in the capacity of a life support agency.

II. To promote and improve overall patient care and pre-hospital EMS activities, Medical Control Authorities shall establish patient care quality improvement programs. Patient care information will be utilized in these programs for quality improvement activities only and shall conform to all state and federal patient confidentiality and privacy laws.

Policy:

I. Medical Control Authorities and their Professional Standards Review Organization (QI Committee) will collect patient care information through retrospective review of patient care records generated and supplied by all life support agencies.

II. Patient care records will be completed on all patients where any type of care or assessment has occurred.

III. Each responding pre-hospital care provider shall complete Medical Control approved documentation, a copy of which may be forwarded to Medical Control Authority for quality improvement purposes.

IV. The Medical Control Authorities shall hold all patient care information in strictest confidence.

V. Quality Improvement within the Medical Control Authority shall be conducted under the Professional Standards Review Organization, which may be comprised of representatives from various pre hospital agencies. No patient identifiers will be used or shared during reporting of any retrospective QI reviews of patient care.

VI. Patient outcomes may be tracked by pre hospital agencies and/or Medical Control Authorities and may be shared among pre hospital agencies, including Medical First Response agencies, responsible for patient care. No patient identifiers will be used or shared during reporting.

VII. Patient care audits may occur as part of the QI process. No patient identifiers will be used or shared during reporting. Aggregate data will be shared with pre hospital agencies using no patient identifiers. This data will be used for education, remediation and overall improvement of system processes.

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Inter-facility Patient Transfers and Critical Care Patient Transports (Optional)

Purpose: The purpose of this policy is to establish a uniform procedure for inter-facility transfers.

1. Responsibility:
    A. Patient transfer is a physician-to-physician referral. The transferring physician is responsible for securing the acceptance of the patient by an appropriate physician at the receiving facility prior to the transportation. The name of the accepting physician must be included with the transfer orders.
    B. It is the responsibility of the transferring facility to:
        a. Perform a screening examination.
        b. Determine if transfer to another facility is in the patient's best interest.
        c. Initiate appropriate stabilization measures prior to transfer.

    C. During transport, the transferring physician is responsible for patient care until arrival of the patient at the receiving facility.
    D. If unanticipated events occur during patient transport, and contact with the transferring physician is not possible, then on-line Medical Control will serve as a safety net.
    E. It is the transferring physician's responsibility to know and understand the training and capabilities of the transporting EMS personnel.

2. Transportation
    A. Pre-transport
        a. Care initiated by the transferring facility may need to be continued during transport. The transferring physician will determine the method and level of transport and any additional treatment(s), if any, that will be provided during the course of transport.
        b. Orders for treatment, including medications for ALS transfers, or other orders shall be provided in writing to the EMS personnel prior to initiation of the transport by the transferring Physician.
        c. For ALS transfers, ordered medications not contained within the EMS System Medication Box/Bag must be supplied by the transferring hospital.
        d. EMS personnel must be trained in all the equipment being used in the patient's care or appropriately trained staff must accompany the patient.
        e. Should the patient require care and/or equipment above and beyond the normal scope of practice and training of the EMS personnel, the transferring facility shall provide appropriate staff or consider other appropriate means of medical transportation.
        f. The paramedic has the right to decline transport if he/she is convinced patient care is outside their scope of practice and training or, alternatively, to insist a hospital staff member accompany them on the transfer or consider other appropriate means of medical transportation.
        g. If additional staff accompanies the patient, the transferring physician is responsible for ensuring their qualifications. This staff will render care to the patient under the orders of the transferring physician. It will be the

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responsibility of the transferring facility to provide arrangements for the return of staff, equipment, and medications.

h. The following information should accompany the patient (but not delay the transfer in acute situations):
    1. Copies of pertinent hospital records
    2. Written orders during transport
    3. Any other pertinent information including appropriate transfer documents.

B. During Transport
    a. Hospital supplied medications not used during transport must be appropriately tracked, wasted and documented. All controlled substances and Propofol must have a documented chain of custody.
    b. The concentration and administration rates of all medications being administered will be documented on the patient care record.
    c. Interventions performed en route, and who performed them, will be documented on the patient care record.
    d. In the event that a patient's condition warrants intervention beyond the written Physician orders provided by the transferring Physician, the EMS personnel will contact the transferring Physician. If that is not possible, the EMS personnel will follow local Medical Control Protocols and initiate contact with the on-line Medical Control Physician from either the sending or receiving facility or, if not able to contact those facilities, the closest appropriate on-line Medical Control facility.

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BETP
Bureau of EMS, Trauma & Preparedness

Medication Custody Form

Patient Name _____

EMS Staff Receiving Medication _____ (Name) _____ (Signature)

Hospital Staff Sending Medication _____ (Name) _____ (Signature)

Medication	Amount Received From Hospital	Administered	Wasted

EMS Staff Wasting Medication _____ (Name) _____ (Signature)

Hospital Staff Witnessing Waste _____ (Name) _____ (Signature)

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Critical Care Patient Inter-Facility Transport (OPTIONAL) Additional Requirements

Purpose: To provide hospital facilities, physicians, and medical transport personnel with guidelines to facilitate inter-facility transportation of critically sick and injured patients within Advanced Life Support vehicles.

1. Vehicle and Staffing Policy
    A. MDHHS Vehicle License. All vehicles conducting Critical Care Inter-Facility Patient Transports must be licensed as transporting Advanced Life Support (ALS) vehicles.
    B. Equipment. The following is the minimum equipment that will be carried by an ALS vehicle while it is providing Critical Care Inter-Facility Patient Transport, in addition to the equipment required by Part 209, P.A. 368 of 1978, as amended, and local medical control authority protocols:
        a. Waveform Capnography
        b. Portable Ventilator or staff capable of providing ventilatory support
        c. Portable Infusion Pump(s)
        d. Pressure infusion bag(s)

    C. Staffing
        e. All ALS vehicles that conduct Critical Care Inter-Facility Patient Transports will be staffed in accordance with local medical control requirements with at least one (1) paramedic trained in the Critical Care Inter-Facility Patient Transport curriculum. The trained paramedic must be in the patient compartment while transporting the patient.
        f. The above requirement for staffing does not apply to the transportation of a patient by an ambulance if the patient is accompanied in the patient compartment of the ambulance by an appropriately licensed health professional designated by a physician and after a physician-patient relationship has been established as prescribed. (PA 368, Section 20921(5)).

2. Critical Care Inter-Facility Patient Transport Physician Director/Quality Improvement
    A. Ambulance services that utilize this protocol must designate a Critical Care Inter-Facility Patient Transport Physician Director.
    B. The Critical Care Inter-Facility Patient Transport Physician Director will be responsible for:
        a. Oversight of a quality improvement program for Critical Care Inter-Facility Patient Transports
        b. Oversight of the training curriculum for EMS personnel trained under this protocol.
3. Critical Care Inter-Facility Patient Transport Curriculum

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CRITICAL CARE PATIENT INTER-FACILITY TRANSPORT CURRICULUM

COURSE OUTLINE

1. Ventilator patient concerns (4 hours total)
    A. Types of ventilators
    B. IPPB, SIMV, PEEP, CPAP
    C. Use of transport ventilators
    D. Complications
    E. Use of Pulse Oximeter/Capnography
2. Chest Tubes and Pleurovac (1 hour)

    A. Principles of pleural cavity evacuation
    B. Maintaining chest tubes
    C. Review various systems
    D. Pleurovac Practical Lab
3. Maintenance of invasive lines (2 hours)
    A. Types of hemodynamic monitoring
        a. Various equipment
        b. Insertion sites
        c. Maintaining infusions
        d. Complications
4. Equipment Training Videos (1 hour)
    A. IV Pumps
    B. Ventilator
    C. 12 Lead Monitoring
5. Thrombolytics (1 hour)
    A. Indications, contraindications, adverse effects, and administration
        a. Streptokinase
        b. tPA
        c. Retavase
        d. TNKase
        e. Heparin
        f. Lovenox
6. Interpreting blood gases (1 hour)
    A. The use of ABGs in ventilator managements
7. Blood products (1 hour)
    A. Whole blood/Packed RBCs/Plasma
8. Cardiac Enzymes (1 hour)
    A. Cardiac physiology and the meaning of enzyme abnormalities
9. Vasoactive drugs (2 hours)
    A. Indications, contraindications, adverse effects, and administration
        a. Dopamine
        b. Epinephrine
        c. Dobutamine
        d. Levophed
        e. Amrinone/Milrinone
        f. Nitroglycerin
        g. Nitroprusside

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h. Esmolol
i. Labetalol

10. Critical Care Patient Transport Protocol Review (1 hour)
    A. Protocol review and miscellaneous drugs
        a. Indications, contraindications, adverse effects, and administration
            1. Aminophylline
            2. Mannitol
            3. Phenytoin
            4. Insulin
            5. Propofol
            6. Oxytocin and related drugs
11. Paralytics (1 hour)
    A. Indications, contraindications, adverse effects, and administration
        a. Non-depolarizing neuromuscular blockers
        b. Sedatives during paralytic maintenance
        c. RSI indications during critical care patient transport
    B. Administer with Medical Control
12. Practical Lab (1 hour)
    A. IV Pumps
        a. Various tubing
        b. Maintaining a drip while changing to the pump
    B. Ventilator
    C. 12 Lead
    D. CO2 detector
13. Cardiac Physiology/12-Lead ECG (4 hours)
    A. Cardiac physiology and cardiac drug review
        a. Indications, contraindications, adverse effects, and administration
            1. Lidocaine/Procainamide
            2. Potassium
            3. Morphine
            4. Cardizem
            5. Amiodarone
14. 12-Lead AMI Recognition (2 hours)
15. High Risk Pregnancy (1 hour)
    A. Indications, contraindications, adverse effects, and administration
        a. Magnesium Sulfate
        b. Pitocin
16. Antibiotics (1 hour)
17. Pediatrics (4 hours)
    A. Pediatric Airway and Ventilation management including Ventilator Dynamics and Chest Tube Monitoring and pneumothorax recognition and treatment (1 hour)
    B. Pediatric fluid requirements including maintenance and bolus therapies (1 hour)
    C. Pain management (1 hour)
    D. Case studies, trauma specific (1 hour)
18. Critical Care Patient Transport Charting (1 hour)
19. Critical Care Patient Transport Call: Start to Finish (1 hour)
    A. General considerations
    B. Staffing and quality management considerations
    C. When to refuse a call

20. Critical Care Patient Transport Case Presentations (1 hour)
21. Daily Quizzes
    A. Ventilators, chest tubes, invasive lines
    B. Thrombolytics, ABGs, blood, enzymes, pressers, paralytics
22. Written and Practical Exam (4 hours)

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Licensure Level Requirement of Attendant during Transport (Optional)

☐ Medical Control Authorities choosing to adopt this protocol may do so by selecting this check box.

Purpose: To provide a protocol to fulfill the requirement that allows for EMS personnel to transport patients up to their individual licensure level in the event that the vehicle is licensed at a higher level as set forth in Michigan Administrative Code Part 3, Ambulance Operations R325.22133 (f).

Michigan Administrative Code Part 3. Ambulance Operations R 325.22133 (f) states: that an individual whose license is at least equal to the level of vehicle license is in the patient compartment when transporting an emergency patient, or consistent with department approved medical control authority protocols.

I. Patient care transport level is to be determined by the individual(s) whose license is at least equal to the level of the vehicle license. This individual will perform a patient assessment to determine the level of patient care transport.

   A. EMT-Basic may attend in the patient compartment during transport on a patient deemed to be within the scope of practice for an EMT-Basic as defined by the State of Michigan.
   B. EMT-Specialist may attend in the patient compartment during transport on a patient deemed to be within the scope of practice for an EMT-Specialist as defined by the State of Michigan.
   C. EMT-Paramedic may transport a patient at any level.

II. Ambulance(s) must maintain minimum staffing in accordance with Public Health Code Act 368 of 1978 Section 333.20921:
   (3a) If designated as providing basic life support, with at least 1 emergency medical technician and 1 medical first responder.
   (3b) If designated as providing limited advanced life support, with at least 1 emergency medical technician specialist and 1 emergency medical technician.
   (3c) If designated as providing advanced life support, with at least 1 paramedic and 1 emergency medical technician.

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Medical Control Privileges

Purpose: To establish minimum requirements for licensees applying for and retaining medical privileges within the jurisdiction of this medical control.

I. Minimum requirements for providers
   A. EMS personnel shall possess a valid State of Michigan license.
   B. EMS personnel shall possess a valid BLS Healthcare Provider card.
   C. Personnel licensed at EMT-Basic and above are subject to other MCA specific requirements as outlined below

II. Minimum Life Support Agency Requirements
   A. Valid State of Michigan license.
   B. Medical Control approved electronic patient care record.
   C. Responsibility for their EMS personnel meeting the requirements of this and other applicable protocols.
   D. Compliance with protocols.
   E. Notification of the medical control authority if they are unable to meet or comply with any protocol, statutory or regulatory requirement.
   F. Compliance with the minimum staffing and equipment requirements as defined in P.A. 368 of 1978, as amended.

III. Optional Training Standards: mark and specify as applicable

- ☐ Written Exam
- ☐ Pre-hospital Trauma Certification (PHTLS, ITLS, FTC)
- ☐ Practical Competency (EMT Skills)

- ☐ Practical Competency (Specialist Skills)

- ☐ Advanced Cardiac Life Support (ACLS)
- ☐ Pre-hospital Pediatric Certification (PALS, PEPP)
- ☐ Practical Competency (Paramedic Skills)

- ☐
- ☐

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IV. Scope of Privileges

A. A licensee's scope of medical privileges shall be granted to the equivalent of those granted his/her employer agency operating within the jurisdiction of this medical control authority.

B. In circumstances where a licensee is dually employed, he/she may exercise privileges to the limit of his/her employer agency of the moment (i.e., a paramedic who is employed by an advanced life support agency and a medical first responder agency may only practice to the level of privileges granted to the agency on whose behalf he/she is acting).

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Responsibilities of the Participants in the Medical Control Authority System

Purpose:

This protocol defines the responsibilities of each administrative segment of the Medical Control Authority system. These segments include the Medical Control Authority itself, the hospitals providing on-line medical direction, and the EMS agencies providing direct EMS services to the public.

I. Responsibilities of the Medical Control Authority
   - A. The Medical Control Authority is responsible for providing medical oversight for EMS. Hospitals are responsible for administering the Medical Control Authority.
   - B. The Medical Control Authority will issue protocols, as defined by Part 209 of P.A. 368 of 1978, as amended, that are up-to-date, reflect current medical practice, and address issues as necessary to assure quality pre-hospital patient care.
   - C. In cooperation with the EMS agencies, the Medical Control Authority will coordinate training to implement protocols if not included in routine EMS education.
   - D. The Medical Control Authority will establish a Professional Standards Review Organization (PSRO).
     - a. PSRO will implement a system wide Continuous Quality Improvement program.
     - b. PSRO will provide an impartial, fair and medically appropriate peer review process.

II. Responsibilities of Participating Hospitals Providing On-Line Medical Direction
   - A. A hospital within the Medical Control Authority system providing on-line medical direction to EMS providers will assure that any physician designee providing such direction is properly trained and qualified and abide by Medical Control Authority protocols.
   - B. Each hospital providing on-line medical direction will encourage the participation of a representative of its Emergency Department physician staff with the Medical Control Authority.
   - C. Hospitals will promptly inform their Emergency Department physicians and staff of Medical Control Authority policy and protocol changes.

III. Responsibilities of EMS Agencies
   - A. Agencies will operate under the Medical Control Authority and comply with Division approved protocols.
   - B. Only persons currently authorized to do so by the Medical Control Authority will provide pre-hospital patient care. Each EMS agency will assure that their personnel have current training and certifications as required by protocol.

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C. The Medical Control Authority will be immediately notified if an EMS agency is unable to provide staffing at the level required by its State license.
D. Licensed EMS vehicles will be equipped with all Medical Control Authority required equipment, if applicable, in addition to that equipment required by the State of Michigan.
E. EMS agencies will promptly inform their EMS personnel of Medical Control Authority policy and protocol changes.
F. EMS agencies will provide an annual listing of EMS personnel upon request of the Medical Control Authority. This listing shall note the license and Medical Control Authority authorization status of each individual.
G. If an employee of an EMS agency is found to be in violation of a Medical Control Authority protocol, the EMS agency will cooperate with the Medical Control Authority in addressing the violation and taking corrective measures.

IV. Accountability

A. The State of Michigan, Department of Health and Human Services, Division of EMS and Trauma, designated the Medical Control Authority for a specific region. As such, the Medical Control Authority is accountable to that agency in the performance of its duties.
B. The hospitals within the Medical Control Authority system collectively administer this Medical Control Authority. Each individual hospital is accountable to the Medical Control Authority to meet the responsibilities listed above. Failure to meet those responsibilities may result in a termination of the ability of a hospital to provide on-line medical direction.
C. EMS agencies within the Medical Control Authority system are accountable to the Medical Control Authority, as detailed and defined in protocol. Failure to comply with approved protocols may result in sanctions against that EMS agency.

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Physician on Scene

Purpose: To provide a process for interaction between EMS personnel and physicians at the scene of a medical emergency.

I. Responsibility of Medical Control

A. "When a life support agency is present at the scene of the emergency, authority for the management of an emergency patient in an emergency is vested in the physician responsible for medical control until that physician relinquishes management of the patient to a licensed physician at the scene of the emergency". MCL 333.20967

B. The EMS provider is responsible for management of the patient and acts as the agent of the medical control physician.

II. Patient Management in the Presence of an On Scene Physician

A. The EMS provider may accept assistance and/or advice of the on-scene physician provided they are consistent with medical control protocols. The assistance of an on-scene physician may be provided without accepting full responsibility for patient care, as long as there is ongoing communications and approval by the medical control physician. The medical control physician may relinquish control of the patient to the on-scene physician provided the on-scene physician agrees to accept full responsibility for the patient. Full responsibility includes accompanying the patient to the hospital and completing a patient care record. The EMS personnel should encourage the on-scene physician to communicate with the on-line medical control physician.

B. The medical control physician may reassume responsibility of the patient at their discretion at any time.

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Protocol Deviation

I. It is acknowledged that there are situations in which deviation from the protocols, policies and procedures may be needed in the interest of patient care.

   A. In those situations, EMS personnel should request permission for deviation from on-line medical direction whenever possible.

   B. Unavailability of on-line medical direction and the immediacy of patient care needs may, in very rare instances, prohibit such requests, but those situations should occur rarely.

II. All instances of protocol deviation must be documented in the EMS patient care record, noting the deviation which occurred and the reason for that deviation.

III. All deviations must be reported to medical control.

IV. All deviations will be reviewed within the medical control quality improvement program.

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Violent/Chemical/Hazardous Scene

Note: This policy applies to any situation, which may expose EMS personnel to known or potentially violent (e.g., shooting, stabbing, assault, other violent crimes) or other known or potentially hazardous (e.g., hazardous material, chemical, biological) situations.

The medical component of the response to a violent or hazardous incident will operate under the Incident Command System.

I. Procedure
   A. Upon notification of a known or potentially violent situation, the EMS personnel will determine through dispatch, the nature and location of incident and:
      1. Violent Situations
         a. Is assailant/weapon present?
         b. Assure law enforcement notification?
         c. Is scene secure?
      2. Hazardous materials situation
         a. Is scene secure?
         b. Nature and identification of material?
         c. Assure FD/Hazmat Team notification?

NOTE: The above information should be communicated to responding crews.

II. In any situation in which the scene is not secured, EMS personnel ARE NOT TO ENTER THE SCENE until it has been secured by the appropriate agency.
   A. When responding to an unsecured scene, EMS personnel will stage an appropriate distance away from the scene to protect themselves from danger.

III. Once on the scene, if the situation changes posing an immediate life or limb threat to EMS personnel:
   A. Attempt to safely exit scene.
      1. Exit scene with patient, if possible.
      2. Medical treatment protocols may be limited or deferred to assure safety of EMS personnel and/or patient.
   B. Notify the dispatcher of the assistance needed.
   C. Provide any additional information available – e.g., number of assailants, weapons present/involved, any additional information.

Special Considerations: For those patients, who have been contaminated in a hazardous material incident, refer to **Contaminated Patient Procedure**

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Determination of Death, Death in an Ambulance and Transport of a Body

The intent of this policy is to establish standards for Determination of Death, when patients with Do-Not-Resuscitate (DNR) orders die in an ambulance, or care is terminated for a patient while in the ambulance.

I. Pronouncement/Determination of Death

A. Per the Determination of Death Act (Act 90 of 1992, MCL 333.1033), the MCA may establish which of its medical personnel may pronounce death.[1] Per this policy, paramedics holding MCA privileges, while on duty with a licensed ALS life support agency, with primary or secondary operations within this MCA or while providing mutual aid within this MCA, may pronounce the death of a patient who meets the following criteria:

1. Irreversible cessation of circulatory and respiratory functions
   a) Irreversible cessation of circulatory and respiratory functions is implied when a patient has experienced cardiac arrest and a valid DNR is in place, such that no attempt will be made to reestablish either circulation or respiratory functions.
   b) Irreversible cessation of circulatory and respiratory functions is also implied when a patient meets the criteria established under the **Dead on Scene protocol** or the termination criteria are met under the **Termination of Resuscitation Protocol**.

B. Contact with on-line medical control for the purpose of determination of death or pronouncement is not necessary unless expressly stated in the enabling protocol.

C. Contact with Dispatch for the purposes of recording the death is required.

II. Out of hospital death – Notification of the Medical Examiner

A. The Medical Examiner's office shall be notified for any out-of-hospital death under the following circumstances:

1. The individual dies by violence
2. The individual's death is unexpected
3. The individual dies without medical attendance by a physician, or the individual dies while under home hospice care without medical attendance by a physician or registered nurse, during the 48 hours immediately preceding the time of death, unless the attending physician, if any, is able to determine accurately the time of death.
4. If the individual dies as a result of an abortion, whether self-induced or otherwise.
5. Death of a prisoner in a county or city jail.

B. Responsibility to notify the Medical Examiner

1. If a patient is transported to a hospital from the scene, having met the above criteria, EMS shall notify the hospital of the criteria which requires notification.

[1] MCL 333.1033 (3) A physician or registered nurse may pronounce the death of a person in accordance with this act. This subsection does not prohibit a health facility or agency licensed under article 17 of the public health code, Act No. 368 of the Public Acts of 1978, being sections 333.20101 to 333.22260 of the Michigan Compiled Laws, from determining which of its medical personnel may pronounce the death of a person in that health facility or agency.

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Responsibility for the notification of the Medical Examiner resides with the hospital.

2. If a patient meeting the above criteria is pronounced dead without being transported to the hospital, the responsibility for notification of the Medical Examiner is shared between law enforcement and EMS personnel having authority for the management of the patient.
3. Patients who do not meet the above criteria and who are pronounced dead outside of a hospital do not require notification of the medical examiner.
   a) Any patient who is attended by a physician or registered nurse at the time of death (nursing home)
   b) Any patient who was under home hospice care and had medical attendance by a physician or registered nurse within the 48 hours immediately preceding the time of death (hospice patient either at home or in hospice facility)

III. Out of Hospital Death – Management, Handling and Movement of Body

A. A body shall not be moved from the location of death if any mandatory Medical Examiner reporting criteria are present, **unless the ME's office provides official notification that an autopsy or external examination will not be performed and that the body will be released to the funeral home.**

B. Alternately, the body of a person who has unexpectedly died in a public location may be moved only after approval from the ME's office to EMS. Such approval shall not be requested if there is any indication of violence, criminal activity or if the physical environment may contain evidence related to a cause of death or an injury pattern.

C. **A situation which does not require notification of the ME's office does allow for movement of the body pending retrieval by the funeral home.**

D. Bodies must remain in the physical custody of the police or EMS until custody is transferred to the funeral home or the ME's office staff.

E. Medical devices utilized during care by EMS may be removed from the patient if the body is released by the ME's office to the funeral home (IV's, advanced airways, defibrillation pads, etc.)

F. Medical devices utilized during care by EMS must remain in place if the ME's office advises that an autopsy of examination will be performed.

G. If there is evidence of suspicious, violent or unusual cause of death, caution should be taken to avoid contamination of the scene.
   1. Police may choose to photograph or document the placement of medical devices, medical equipment, etc. in suspicious situations, prior to their movement or removal.

H. No personal items should be removed from the body with the exception of identification.

I. Bodies may be covered with a burn sheet or other sheet which does not shed fibers.

J. If a body is moved, as permitted in the prior criteria, the location should be to a private, secure and nearby location pending retrieval by the funeral home or the ME's staff.

K. Bodies must be handled with care and respect for the deceased, the family and the public.

IV. Death in an Ambulance – termination of care

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A. Patients with valid DNR orders being transported for any reason, whether due to an emergency condition or during an interfacility transfer, who experience cardiac or respiratory arrest shall have the DNR honored unless, before arresting, the patient expressly withdraws their DNR.

B. Patients for whom transport was initiated but who, during transport, meet the criteria for either Dead on Scene or Termination of Resuscitation protocols, and for whom On-line Medical Control (OLMC) has approved a termination of resuscitation (as required by those protocols respectively), may have care terminated while still en route to the hospital.

V. Death in an Ambulance – transportation of patient's body

A. In the event of a patient death in an ambulance, the body shall be transported to the original destination hospital if the call was originally from a scene to a hospital or from a facility to a hospital (transfer).

1. The patient's body shall be brought to the Emergency Department
2. The patient will be registered to accommodate both the transfer of custody and for preservation of evidence, if indicated
3. The Medical Examiner shall be contacted by the hospital and the disposition of the body shall be according to the direction of the ME.

B. If a patient is being transferred to a nursing home or to their home, immediately following discharge from a hospital, and death is determined, the body should be brought back to the hospital from which they were discharged, unless the patient is a hospice patient.

1. If the patient is a hospice patient and hospice will be meeting you at the destination, or the destination is a hospice facility, you may continue on to the destination and relinquish the body to hospice personnel. This is permitted, without notification of the Medical Examiner, since the patient was both a hospice patient and received medical attendance within the 48 hours immediately preceding the time of death. However, if the death was unexpected, the Medical Examiner must be notified.
2. If the patient is a hospice patient and hospice personnel will not be meeting you at the destination, continue on toward the destination, contact a supervisor from your agency and evaluate the situation. Where you ultimately go is dependent on how far you are from the destination, if family was intending to meet you at the destination, if the death was unexpected and any confounding factors. The body may not be left without there being a custodial transfer from EMS to an appropriate healthcare provider.
    a) Consider contacting the hospice care provider
    b) Consider consultation with online medical control
    c) If the death was unexpected, contact the Medical Examiner

C. If a patient is being transferred from a facility to an appointment, or vice versa, where neither the starting or ending destination was a hospital:

a) If no DNR exists, treat and transport the patient to a hospital
b) If a DNR exists but the patient is not a hospice patient, determine death, honor the DNR, and transport the body to a hospital
c) If a DNR exists and the patient is a hospice patient, determine death; honor the DNR, refer to V.B (1 and 2) above.

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Safe Delivery of Newborns

Purpose

According to Public Act 488 of 2006 and Public Acts 232, 233, 234, and 235 or 2000, parents may surrender their newborn child to any hospital, fire department, police station, or call 911 from any location and remain anonymous. This protocol outlines steps to be taken in this circumstance. ***IMPORTANT* While there is opportunity for information gathering through forms, the surrendering parent has the option of remaining completely anonymous and disclosing no information.**

Definitions

Newborn: A child who a physician reasonably believes to be not more than 72 hours old.

Emergency Service Provider: A uniformed or otherwise identified employee or contractor of a fire department, hospital, or police station when such an individual is inside the premises and on duty. ESP also includes a paramedic or an emergency medical technician (EMT) when either of those individuals is responding to a 9-1-1 emergency call.

Surrender: To leave a newborn with an emergency service provider without expressing an intent to return for the newborn.

Procedures

1. The surrender of the infant must occur inside the fire department, police station or in response to a 9-1-1 emergency call to paramedics or EMT.
2. To protect the parent's right to anonymity/confidentiality, the EMS agency responding to a 9–1–1 emergency call from a parent(s) wanting to surrender a newborn, should not use the vehicle sirens or flashing lights.
3. The firefighter, police officer, paramedic or EMT personnel cannot refuse to accept the infant and must place the infant under temporary protective custody.
4. Fire departments, police stations, paramedics and EMTs have statutory obligations under the law, including:
    a. Assume that the child is a newborn and take into temporary protective custody.
    b. Ask surrendering person(s) if they are the biological parent(s). If they are not the biological parent(s) the newborn cannot be surrendered under the Safe Delivery of Newborns law.
    c. Make a reasonable effort to inform the parent(s) that:
        i. By surrendering the newborn, the parent(s) is releasing the newborn to a child placement agency to be placed for adoption.
        ii. He or she has 28 days to petition the Circuit Court, Family Division to regain custody of the newborn.
        iii. There will be a public notice of this hearing and the notice will not contain the parent(s) name.
        iv. The parent(s) will not receive personal notice of the hearing.

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v. Information the parent(s) provides will not be made public. A parent(s) may contact the Safe Delivery of Newborns hotline for information. The toll free number is: **866-733-7733**

5. Provide the parent(s) with written material from the Department of Health and Human Services that includes:
    a. Safe Delivery Program FACT Sheet (DHHS Pub 867)
    b. What Am I Going To Do? (DHHS Pub 864) Optional
6. Make a reasonable attempt to:
    a. Reassure parent(s) that shared information will be kept confidential.
    b. Encourage parent(s) to identify him/herself.
    c. Encourage the parent(s) to share any relevant family/medical background, Voluntary Medical Background Form for a Surrendered Newborn (DHHS Form 4819).
    d. Inform the parent(s) of the newborn he or she can receive counseling or medical attention.
    e. Inform parent that in order to place the child for adoption the state is required to make a reasonable attempt to identify both parents. Ask for the non-surrendering parent's name. Do not press if the name is refused.
    f. Inform the parent(s) that he or she can sign a release for the child that could be used at the parental rights termination hearing, Voluntary Release for Adoption of a Surrendered Newborn (DHHS Form 4820).
7. Fire and Police will contact emergency medical services (EMS) to transport newborn to hospital. ESP will accompany newborn to the hospital to provide hospital with any forms completed by the parent(s) and to transfer temporary protective custody.
    a. Note: Temporary protective custody cannot be transferred to EMS. A representative of the fire department or police station must go to the hospital to transfer temporary protective custody to the hospital.
8. Paramedics and EMT responding to a 9-1-1 emergency call will transport newborn to hospital, provide any forms completed by parent(s) and transfer temporary protective custody to hospital staff.

* For Safe Delivery purposes EMS is defined as a paramedic or emergency medical technician.

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Michigan's
Safe Delivery of Newborns Law
FACT Sheet
SAFE. LEGAL. ANONYMOUS.

Background:

Michigan lawmakers passed the Safe Delivery of Newborns law to end the tragedy of unwanted newborns being hidden and left to die in unsafe places. More than 100 newborns were surrendered in the first 10 years the law was in effect, with the majority of these infants adopted by loving families.

What the law provides?

- Unharmed newborns, up to 72 hours old, can be taken to an Emergency Service Provider (ESP), meaning a uniformed or otherwise identified employee or contractor of a fire department, hospital or police station who is inside the building and on duty. ESP includes a paramedic or EMT when either responds to a 9-1-1 call. The parent(s) has the choice to leave the infant without giving any identifying information to the ESP.
- The ESP is authorized to accept the infant and provide whatever care may be necessary.
- The ESP will make a reasonable effort to provide the parent(s) with the following information:
  1. A written statement of the parent's rights following surrender of the infant.
  2. Information about other confidential infant placement options, as well as information about the availability of confidential medical and counseling services, such as Public Health, Community Mental Health, Family Planning Clinics, Adoptions Agencies.

What are the rights of the surrendering parent?

- To be informed that by surrendering the newborn, the parent is releasing the newborn to a child placing agency to be placed for adoption.
- To petition the court to regain custody of the newborn within 28 days of surrender or notice of surrender.
- Any information the parent(s) provides the ESP will **not** be made public.
- A criminal investigation shall not be initated solely on the basis of a newborn being surrendered to an ESP.
- To file a consent to release identifying information with the Adoption Central Registry.

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CONFIDENTIAL
VOLUNTARY MEDICAL BACKGROUND FORM FOR A SURRENDERED NEWBORN
Michigan Department of Human Services

Preference for Child's Name	Date of Birth
Where was the child born?	Sex

SURRENDERING PARENT BACKGROUND (Optional)

Name	Marital Status ☐ S ☐ M ☐ D	Date of Birth	Phone Number
Address			
Race	Affiliated with American Indian Tribe ☐ YES ☐ NO	Identify Tribe	
Height	Weight	Hair Color	Eye Color

Any Family History of:	Yes	No		Yes	No	
Sickle Cell Disease	☐	☐	Cancer	☐	☐	If Yes Type
Heart Disease	☐	☐	Genetic Disease	☐	☐	If Yes Type
Diabetes	☐	☐	Family History of Mental Illness	☐	☐	If Yes Explain
HIV	☐	☐	Drug Usage	☐	☐	If Yes Explain
Hepatitis	☐	☐	Alcohol Usage	☐	☐	If Yes Explain

Other _____

Surgical History

OTHER PARENT BACKGROUND (Optional)

Name	Marital Status ☐ S ☐ M ☐ D	Date of Birth	Phone Number
Address			
Race	Affiliated with American Indian Tribe ☐ YES ☐ NO	Identify Tribe	
Height	Weight	Hair Color	Eye Color

Any Family History of:	Yes	No		Yes	No	
Sickle Cell Disease	☐	☐	Cancer	☐	☐	If Yes Type
Heart Disease	☐	☐	Genetic Disease	☐	☐	If Yes Type
Diabetes	☐	☐	Family History of Mental Illness	☐	☐	If Yes Explain
HIV	☐	☐	Drug Usage	☐	☐	If Yes Explain
Hepatitis	☐	☐	Alcohol Usage	☐	☐	If Yes Explain

Other _____

Surgical History

INFORMATION ABOUT THE PREGNANCY

Length of Pregnancy	Weight Gain Lbs.	Drug or Alcohol Use During Pregnancy ☐ Yes ☐ No, If yes, Explain

EMERGENCY SERVICE PROVIDER OBSERVATIONS

Comments			
ESP Signature	Date	Phone Number	
Address:	City	State	Zip Code

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VOLUNTARY RELEASE FOR ADOPTION OF A SURRENDERED NEWBORN BY PARENT

Michigan Department of Human Services

In the matter of _____, a newborn child.

1. I, _____, DOB ___/___/_____ am the ☐ mother ☐ father of the above child, who was born on ___/___/_____ at _____ (place).

2. I understand that I have parental rights to this child and that by signing this release, I voluntarily release all of my parental rights to my child. (Subject to number three below.)

3. I understand that I have 28 days after surrendering my newborn child to petition the court to reclaim custody of my child.

4. I understand that I will not receive notice of any hearings.

5. Understanding the above provisions, I release completely and permanently my parental rights to my child, and release my child to a child placing agency for the purpose of adoption.

6. I acknowledge receipt of the following:
   ____ Fact Sheet (Pub 867)

Date ___/___/_____ Parent Signature _____

Address _____

City _____ State _____ Zip _____

Witnessed by _____
Name (type or print)

on _____ (Date), at _____ (Agency and Address)

_____
Signature

IF A NOTARY IS AVAILABLE: Notary Public

Subscribed and sworn to before me on _____ (Date), _____ (County and State)

My commission expires: _____ (Date) Signature: _____

_____
Name (type or print)

AUTHORITY: State P.A. 232 of 2000 RESPONSE: Voluntary PENALTY: None	Department of Human Services (DHS) will not discriminate against any individual or group because of race, sex, religion, age, national origin, color, height, weight, marital status, political beliefs or disability. If you need help with reading, writing, hearing, etc., under the Americans with Disabilities Act, you are invited to make your needs known to a DHS office in your area.

DHS-4820 (Rev. 5-07) MS Word

BOETP
Bureau of EMS, Trauma & Preparedness

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SAFE DELIVERY

Surrendering Parent Rights

By surrendering your newborn, you are releasing your newborn to a child placing agency to be placed for adoption.

You have 28 days after surrendering your newborn to petition the court to regain custody.

After the 28 days end there will be a hearing to terminate your parental rights.

There will be a public notice of this hearing; however, the notice will not contain your name.

You will NOT receive personal notice of the hearing.

Any information you are willing to provide to an Emergency Service Provider will NOT be made public.

For more information on safe delivery call the hotline at: 866–733–7733

The card below is detachable. Please keep it with you or pass it along to someone you think it may help...

A newborn can be surrendered within 72 hours of birth inside any hospital, fire department, police station or by calling 9–1–1.

SAFE. LEGAL. ANONYMOUS.
HOTLINE: 866–733–7733

www.michigan.gov/safedelivery

Did you know

you can... surrender your baby at a SAFE PLACE

- ✔ hospital
- ✔ fire department
- ✔ police station
- ✔ by calling 9–1–1

SAFE. LEGAL. ANONYMOUS.

The Michigan Department of Health and Human Services (MDHHS) does not discriminate against any individual or group because of race, religion, age, national origin, color, height, weight, marital status, genetic information, sex, sexual orientation, gender identity or expression, political beliefs or disability.

DHS-Pub-864 (Rev. 11-15) Previous edition obsolete.

SAFE. LEGAL. ANONYMOUS.

Please don't abandon your baby!

Surrender Your Baby

Michigan's
Safe Delivery of Newborns Law

HOTLINE:
866–733–7733

BETP
Bureau of EMS, Trauma & Preparedness

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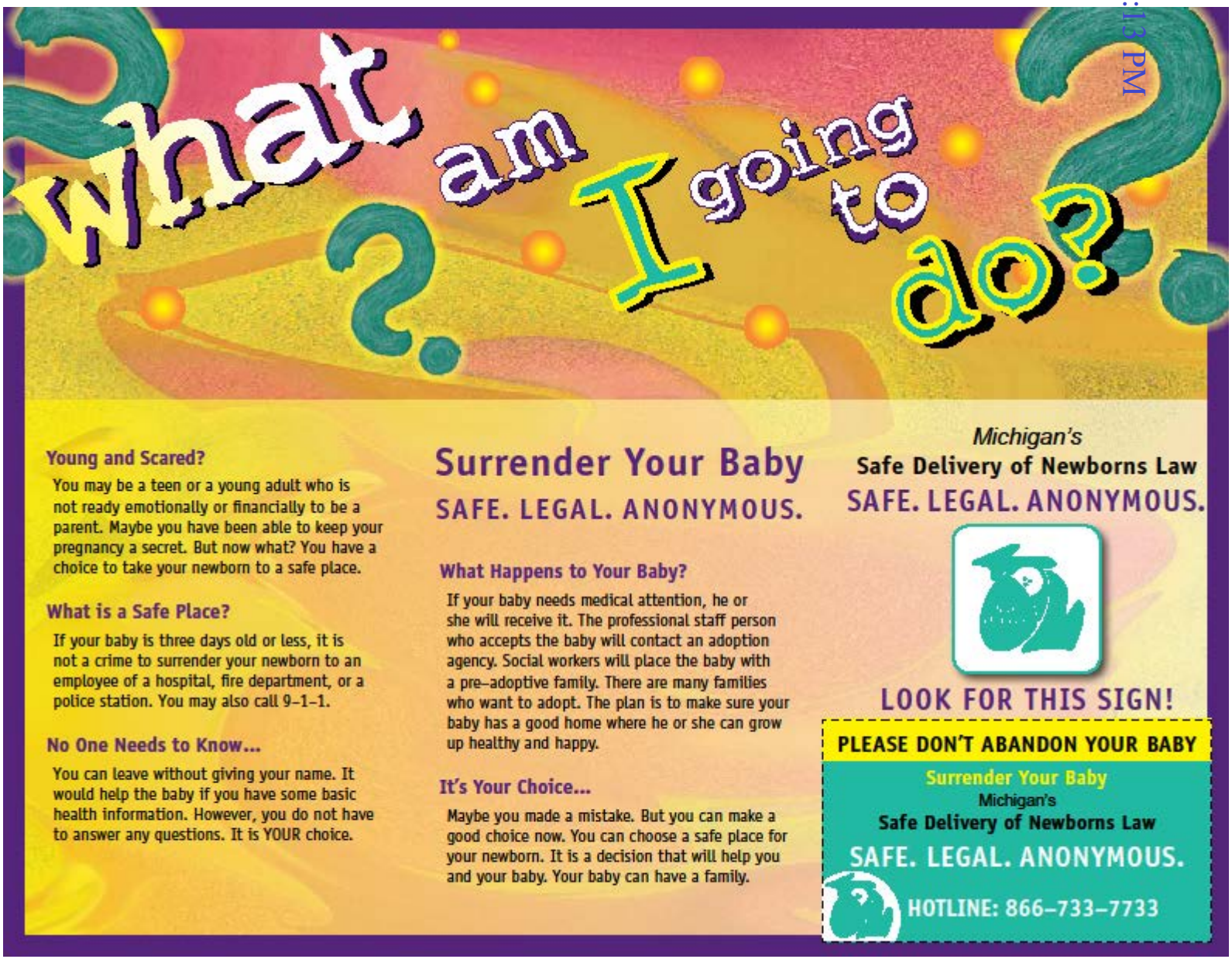

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Complaint Investigation & Resolution

Purpose: This policy is provided as a means to receive, investigate, and resolve complaints regarding licensees falling under the purview of the Medical Control Authority (MCA).

I. Definitions:

A. Complaint

For the purpose of this policy, a complaint shall be defined as any notification of dissatisfaction or concern regarding medical care rendered by a MCA licensed EMS provider/agency, or any issues that involve the performance of the EMS system in whole or in part.

B. Privileged Documents

Privileged documents are those which are collected by the Professional Standards Review Organization (PSRO) of the MCA.

C. Formal Inquiry

Formal inquiry means that a complaint has been found to either be valid, or that more detailed inquiry is necessary to determine the validity of the complaint; either of which will require that the subject licensee (individual/agency) be notified of the specific complaint. A formal inquiry may involve the gathering of incident reports which provide explanations for care rendered or justification for actions, as well as subject/witness interviews. Some information gathering may not necessitate a formal inquiry.

D. Sentinel Event

A sentinel event is any complaint which involves at least one single level I infraction, a violation of Michigan or Federal laws, EMS rules, or 2 or more level II infractions, as described in the Medical Incident Review and Corrective Action Policy. Refer to **Incident Classification Protocol**.

E. Licensee

A licensee is defined as an individual or an agency (fire department, rescue squad, life support agency, etc.) holding a valid State of Michigan Medical First Responder, Emergency Medical Technician, Specialist, Paramedic, or agency licensed to operate within the Medical Control Authority service area. Said individual licensee shall be an employee of a provider licensed to operate within the Medical Control Authority.

II. Professional Standards Review Organization of the MCA

A. The medical control authority shall establish a PSRO to perform its duties and functions related to complaints, investigations or quality improvement activities, both prospective and retrospective.

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B. The PSRO may be comprised of members of the board(s), MCA employees and contract staff, EMS agency staff, hospital staff, committee members, and other designated individuals when acting on behalf of, or at the direction of the MCA when performing PSRO tasks.[1]

III. Complaints Which Will be Considered

All complaints, in order to be considered for action by the MCA, shall meet the following criteria:

A. A complaint may be submitted either verbally or in writing. Hearsay or "second hand" complaints may not be accepted or investigated by the MCA.

B. The complainant must provide the MCA with his/her name, address, and telephone number. A request for anonymity by a complainant shall be honored by the MCA to the extent possible.

C. The complaint must be directed toward a licensee (individual or agency) within the MCA.

IV. Complaints That May Not Be Considered

Complaints regarding conduct of a licensee, exclusive of medical practice or actions bearing upon medical practice, shall be referred to the employer of the individual. These complaints may also be referred to the PSRO for investigation at the discretion of the MCA.

V. Complaint Delegation

A. Complaints directed toward an individual acting while employed by an agency outside of the jurisdiction of the MCA shall not be accepted or investigated but will be forwarded, or the complainant directed to, the MCA/agency under whose jurisdiction it does fall.

B. MCAs may cooperate on investigations which overlap jurisdictional boundaries. For the purposes of remediation or discipline, the MCA granting Medical Control to the provider or agency where the primary action or actions being investigated took place shall be considered the jurisdictional MCA.

C. Complaints more appropriately investigated at the agency or operational level may be turned over to the life support agency or hospital involved. Investigation results should be reported to the MCA.

VI. Receipt of Complaints

Complaints may be received at the MCA directly, at life support agencies or by individuals. Those in receipt of a complaint which involves violations of protocols,

[1] MCL §331.531, (Et Seq.)

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statutes, or administrative rules shall inform the MCA. The MCA will determine if further investigation is necessary.

The complainant for a case should be asked if they would like to be contacted by the agency/individual that is the subject of the complaint. This will allow the complainant the opportunity to voice a request to remain anonymous or to allow their information to be provided to the subject of the complaint.

VII. Investigation of Complaints

Once a complaint is received by the MCA, the complaint will be assigned to the PSRO. The person(s) charged with complaint investigation will gather information to determine the validity of the complaint and, if valid, will communicate with the employing agency of the subject(s) involved in the complaint. The PSRO may request copies of documents, incident reports, video and audio recordings relating to a complaint without formal notification of the complaint to the subject licensee. All requests for information will be documented in the investigation notes or with attached documentation/emails.

Formal notification of the subject licensee will occur if MCA disciplinary actions or formal inquiry are indicated. A copy of the initial complaint, or a complaint summary (if the initial complainant requested anonymity), may be provided upon request.

VIII.Documentation

The documentation of the investigation of a complaint may include, but is not limited to, the following:

A. The name, address, and telephone number of the complainant (if known)
B. A copy of the stated complaint
C. The date and time of the receipt of the complaint
D. A copy of the complaint acknowledgement, if appropriate.
E. A copy of the notice to the subject licensee, if appropriate.
F. A copy of the pertinent protocol(s) and/or policy/policies.
G. Written statements of witnesses including notes from telephone interviews
H. Copies of pertinent reports, transcriptions of audio tapes; video recordings and copies of other pertinent documents or emails.

IX. General Complaint Review

The complaint review process will first seek to identify the validity of each complaint. Complaints found to be invalid will be closed as unsubstantiated; notification to the individual or the agency of the closure will only occur if prior knowledge of the complaint was provided to, or exists with, the involved individual/agency.

Complaints found to be valid, but of a minor or less severe nature may be handled in

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cooperation with the agency's quality improvement personnel or management. These incidents may involve education and remediation but may not involve suspension, limitation or revocation of the individual's or agency's privileges to function in the MCA area.

X. Sentinel Event Complaint Review

A sentinel event complaint shall be reviewed by the PSRO at a special meeting called for that purpose. Prior to a review meeting, the subject licensee shall be provided with copies of all documentation gathered regarding the complaint with the exception of any documents that would reveal the identity of an individual who requested anonymity. The licensee will be informed if documents are withheld or summarized to maintain the anonymity of an individual.

The subject licensee (individual/agency) may request a postponement, of up to thirty (30) days, of a special meeting in order to prepare his/her/their response to the complaint. The subject individual/agency must submit copies of all supporting documentation to the PSRO at least one week prior to the review meeting.

A. Attorneys and Union representatives are not permitted in PSRO case reviews without prior expressed permission of the MCA.
B. A subject licensee may bring a representative of their life support agency, such that the agency may provide guidance for the individual, and so the agency may fairly represent themselves and their policies.
C. The following steps shall be taken in the complaint review process:
    1. The violation of policy or protocol shall be defined.
    2. The impact on patient outcome will be evaluated.
    3. The subject licensee shall be given time to speak on the issue of the complaint including the opportunity to present supporting documentation.
    4. Counseling, remedial, and/or disciplinary action shall be considered and/or ordered as deemed appropriate by a majority vote of the MCA or their designated and pre-established Professional Standards Review Organization/Quality Review Committee.
D. The complainant shall, to the extent allowed under confidentiality statutes, be notified of the outcome of the complaint review process. The employer shall be notified if one of their employees has their privileges suspended or revoked.
E. If the MCA has enacted a temporary suspension, in accord with the Due Process and Disciplinary Action Policy, and the subject licensee requests a 30-day postponement, the suspension of privileges to function shall remain in place during the postponement.

F. The PSRO shall remove all the names and addresses of patients from the record before the review entity releases or publishes a record of its proceedings, or its reports, findings, and conclusions.[2]

[2] MCL 331.533

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Disciplinary Action Appeal

Purpose: This protocol is provided to define the steps a licensee must take to appeal an order of disciplinary action issued by the Medical Control Authority.

I. Procedure
   A. A licensee having received an Order for Disciplinary Action (ODA) from the Medical Control Authority (MCA) may initiate a Request to Appeal.
   B. A licensee shall notify the MCA within seven (7) days of receipt of notice of an ODA of his/her/their request to Appeal. Such notice shall be in writing.

II. Appeal Hearing
   A. Upon receipt of a Request to Appeal an ODA, the MCA shall schedule a special meeting for the purpose of hearing an appeal. This meeting shall be scheduled as soon as practicable following receipt of a Request to Appeal.
   B. The receipt of a Request to Appeal does not stay the ODA or the imposition of the discipline on the appellant licensee.
   C. The MCA shall honor a request to postpone an appeal hearing, no later than thirty (30) days past the originally scheduled hearing date, to allow the appellant licensee opportunity to assemble information bearing upon his/her/their appeal.
   D. The MCA shall hold an appeal hearing to review the appellant licensee's new information and exercise one of the following options:
      1. Uphold the original decision and subsequent ODA.
      2. Diminish the ODA to a lesser Disciplinary Action (i.e., suspension of privileges diminished to written reprimand).
      3. Revoke the ODA (revocation of an ODA shall not expunge the appellant's record of the complaint process records for a period to twelve (12) months from date of original incident).
   E. Following exhaustion of the procedure stated herein, an appellant may appeal the decision of the MCA to the State of Michigan Emergency Medical Services Coordination Committee as defined in Part 209 of P.A. 368 of 1978, as amended Section 20919(4). An appeal must be filed with the Department of Health and Human Services, in writing, no more than 30 calendar days following notification of the final determination by the MCA.
      1. If a decision of the MCA is appealed to the Emergency Medical Services Coordination Committee, the MCA shall make available, in writing, the information it considered in makings its decision.

III. Appeal Hearing for an Immediate Threat
If the MCA determines that an immediate threat to the public health, safety, or welfare exists, appropriate action to remove medical control privileges can be taken immediately until the MCA has had the opportunity to review the matter at a MCA hearing. The hearing shall be held within 3 business days after the MCA's (or Medical Director's) determination to remove medical control.

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Due Process & Disciplinary Procedures

Purpose: To establish a fair and equitable method of applying remediation and/or discipline to licensees found to be violation of protocol.

I. Due Process

The **Complaint Investigation & Resolution Policy** establishes the initial steps of Due Process. Under that policy, a complaint will be investigated for validity and severity. Both individuals and agencies shall be notified of formal or sentinel reviews.

A. The MCA will provide at least 4 business days' notice to affected providers and agencies prior to convening a special PSRO meeting.

B. Subjects of a complaint will be provided with copies of all, complaint/investigation related materials at the time of a special meeting with the exception of materials that would reveal the identity of an individual that provided information under the condition of anonymity. The subject individual or agency may request the complaint/investigation related materials in advance of the special meeting.

C. Any MCA suspension enacted as a measure to ensure the safety of the community or patients shall remain in effect pending sentinel event review and disposition.

D. In the event of criminal charges being filed against a provider or agency related to acts of violence, diversion of medications, illegal possession of controlled substances, criminal sexual conduct, or other practice which may pose a threat to the community or patients, the MCA may act with suspension of MCA privileges without convening a special PSRO meeting.

1. The individual or agency shall be notified of the suspension per the **Disciplinary Action and Appeal Policy**.
2. If found guilty in a court of law, MCA privileges will be considered to be revoked.
3. If found not guilty of charges, the individual or agency must provide copies of court documents, including transcripts, to the MCA.
4. If a court case is dismissed based on procedural failings or errors, the MCA may decline to extend privileges if the conduct of the individual or agency may pose a threat to the community or patients.

E. A subject licensee may request a postponement of up to thirty (30) calendar days of a special PSRO meeting in order to prepare his/her individual or agency response to the complaint. The subject licensee must submit a copy of all supporting documentation to the MCA at least one week (5 business days) prior to the postponed review meeting.

F. The MCA is not a hiring entity and is not subject to collective bargaining. Union representation during MCA PSRO reviews is not permitted.

G. The MCA's PSRO investigates incidents, complaints, personnel and agencies. While a deed or misdeed may be civil or criminal in nature, the MCA's PSRO is not an adjudicating body for either of these conditions. The PSRO is not subject to the rules and statutes which govern civil or criminal

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adjudication; as such, attorneys and legal representatives are not permitted in PSRO reviews.

H. Recording, monitoring or any manner of duplicating a PSRO review is not permitted unless conducted by the PSRO entity and expressly for PSRO purposes.
I. Disclosure of confidential PSRO materials[1] by individuals or agencies both before and after review shall be cause for possible suspension or revocation of MCA privileges, as well as possible statutory violations.
J. The MCA may disclose non-specific information relating to discipline of individuals or agencies. Care must be taken to not compromise any confidential information.[2]
K. Subject individuals or agencies may have agency representation at PSRO reviews provided PSRO standards are maintained.
L. Individuals or agencies failing to appear for PSRO reviews waive their right to representation and are subject to the summary findings of the review body. Failure to appear also constitutes a violation as defined in the **Incident Classification Policy**.
M. Subject individuals or agencies shall be notified of the findings of a PSRO review. If disciplinary action results, the individual or agency will be provided with any required remediation steps/actions and a copy of the **Disciplinary Action Appeal Policy**.
N. In the event that a complaint/investigation involves both the function of an individual and the compliance of their agency or department, the requirement for a 4 business day notice of any special meeting shall apply, unless a postponement is granted to the individual.

II. Application of Disciplinary Action

A. A primary function of disciplinary action is to ensure the protection and safety of the community and patients.
B. The application of remediation and/or discipline is intended to promote improvement in clinical and operational performance.
C. The MCA shall engage in a process to ensure that licensees maintain an appropriate level of clinical and operational performance.
D. The review process outlined in the **Complaint Investigation Procedure** shall be utilized in assessing the remedial and/or disciplinary action required.
E. MCAs should utilize Just Culture when applying or considering disciplinary action. There should be a balance between provider and system accountability.

III. Remediation

A. The Medical Control Authority may issue an order of remediation to correct substandard clinical performance.

[1] MCL 331.533
[2] MCL 331.533

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B. A defined time period for completion of remedial activity shall be stated in the order.
C. Licensees shall be required to perform remedial activity under the supervision of an appointed proctor to correct an identified performance shortcoming.
D. Notice of a remedial order, or the order itself, shall be forwarded to the licensee's employer (or MCA board in the case of an agency provider).
E. A licensee shall be allowed only one opportunity for remediation of repetitive substandard performance in a twelve-month period. Subsequent episodes of substandard performance of the same nature occurring within the same twelve-month period shall be addressed under the disciplinary portion of this policy.
F. Disciplinary action may be accompanied by assignment of additional remedial activity.

IV. Discipline

Disciplinary action may or may not be ascending in severity. In cases where misconduct (by action or omission), regardless of where the misconduct occurred, is determined to be reckless, willful, or criminal, ascending discipline may be bypassed with a more severe disciplinary action imposed.

A. Order of Disciplinary Action
    1. An Order of Disciplinary Action (ODA) is a written document developed by the MCA and sent to a subject licensee for the purposes of clearly and plainly identifying the findings of the MCA, any disciplinary action and any required remediation.
    2. ODAs include, but are not limited to, written reprimands, written notice of suspension, written notice of revocation, a letter of warning and a letter of reprimand.
    3. The ODA must be delivered in a way that confirmed receipt by the licensee may occur.
    4. The licensee that receives an ODA must provide a copy to all MCAs in which they are privileged.
    5. Licensees receiving an ODA from another MCA must provide a copy of the ODA to this MCA.
B. Temporary Suspension of Privileges
    1. The Medical Director may temporarily suspend a licensee's privileges in cases where there is a clearly definable risk to the public health and welfare. The Medical Control Authority shall review such action within three business days after the Medical Director's determination.
    2. If a licensee's MCA privileges have been temporarily suspended from a licensee, the licensee shall not provide prehospital care until MCA privileges are reinstated.
C. Written Reprimand
    1. A written reprimand shall be issued to a licensee stating
        a. the details of the substandard performance

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   b. the remedial action, if required
   c. the time allowed for completion of remedial action
   d. the consequences for repetitive noncompliance
2. Notice of disciplinary action shall be forwarded to the licensee's employer (or MCA board in the case of an agency provider).
3. A copy of the **Disciplinary Action Appeal** policy shall be included in the notice to the licensee.

D. Probation
1. A probationary letter shall be issued to a licensee stating
   a. the details of the substandard performance
   b. the details of the probation
   c. the remedial action required
   d. the restriction of privileges, if applicable
   e. the time of probationary period
   f. the consequences for repetitive noncompliance
2. Notice of probationary action shall be forwarded to the licensee's employer (or MCA board in the case of an agency provider).
3. A copy of the **Disciplinary Action Appeal** policy shall be included in the notice to the licensee.

E. Suspension of Privileges

A licensee's medical privileges shall be suspended for a specified period of time.

1. A written notice of the suspension shall be issued to the licensee stating
   a. the details of the substandard performance
   b. the violation(s) of protocol and/or policy
   c. the term of suspension
   d. the remedial activity, if required
   e. the time allowed for the completion of the remedial activity
2. Notice of disciplinary action shall be forwarded to the licensee's employer, if employed (or MCA board in the case of an agency provider).
3. A copy of the **Disciplinary Action Appeal** policy shall be included in the notice to the licensee.
4. If a licensee's MCA privileges have been suspended from a licensee, the licensee shall not provide prehospital care until the MCA privileges are reinstated.
5. The Medical Control Authority must notify the department within one (1) business day of the removal of medical control privileges from a licensee.

F. Revocation of Privileges
1. The notice of revocation shall state the violation(s) of protocol and/or policy.

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2. Notice of disciplinary action shall be forwarded to the licensee's employer (or MCA board in the case of an agency provider).
3. A copy of the **Disciplinary Action Appeal** policy shall be included in the notice to the licensee.
4. The Medical Control Authority must notify the department within one (1) business day of the removal of medical control privileges from a licensee.
5. Within one (1) business day of the removal of medical control privileges, the Medical Control Authority must notify all other Medical Control Authorities which it knows, or has reason to believe, have granted the licensee or agency Medical Control privileges.

G. Financial Penalties

The MCA may not apply financial penalties to individuals, per this policy. No such prohibition exists within statute; however, a MCA wishing to establish individual financial penalties must purposely develop an addendum to this policy.

H. PSRO Communications

PSRO protected entities may share PSRO information with other PSRO entities for the following purposes[3]:

1. To advance health care research or health care education.
2. To maintain the standards of the health care professions.
3. To protect the financial integrity of any governmentally funded program.
4. To provide evidence relating to the ethics or discipline of a health care provider, entity, or practitioner.
5. To review the qualifications, competence, and performance of a health care professional with respect to the selection and appointment of the health care professional to the medical staff of a health facility.

V. Alleged violations of administrative or operational protocol requirements by an EMS agency shall be resolved as follows:

A. The Medical Control Authority will notify the department chief or agency official of the alleged protocol violation.

B. Details of the alleged violation, and any response received from the EMS agency, will be presented to the MCA designated PSRO review body at their next meeting. The agency involved will be notified of and may attend the meeting and present any information it believes pertinent.

C. If the PSRO discussion will take place at an otherwise open meeting, the committee must go into closed session for PSRO purposes, prior to discussion. The predesignated PSRO of the MCA will then meet in closed

[3] MCL 331.532

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session to perform the PSRO review. All parties not principal to the PSRO review shall be excluded from such a closed session review. No record of PSRO reviews shall be entered into the general minutes except to state that the committee entered/exited closed session for a PSRO review.

D. The PSRO of the MCA will review the alleged violation and by majority vote of the members present decide a course of action. Any sanction imposed shall follow the guidelines below:
    1. Severity of the violation will determine the level of sanction to be imposed.
        a. A violation is considered "minor" if it involves administrative infractions, including but not limited to, failure to timely file reports.
        b. A violation is considered "serious" if it involves intentional operational issues, including but not limited to, a failure to provide staffing as required by statute.
        c. An otherwise minor violation that is frequent or recurring may be considered by the Medical Control Authority to be "serious" for purposes of this section.
    2. If a minor protocol violation is determined by the Medical Control Authority to have occurred, a letter of warning will be sent to the EMS agency.
    3. If an initial serious violation or a second minor protocol violation within a six month period is determined to have occurred, a letter of reprimand will be sent and the EMS agency may be required to submit, within 15 days, a written statement of actions it will take to prevent future protocol violations.
    4. At the discretion of the Medical Control Authority, notice of these actions may be made public.
    5. A MCA may assess restrictions or limitations upon a licensed life support agency for non-compliance with protocols.

E. If a third of more frequent minor protocol violation is determined by the Medical Control Authority to have occurred within a period of 18 months, or if the violation is a second serious violation within 18 months, the Medical Control Authority may suspend or revoke its medical control oversight for the EMS agency. The EMS agency shall not provide pre-hospital care until medical control is reinstated. At its discretion, the Medical Control Authority may take any other action within its authority to prevent further protocol violations. Notice of this action shall be made public.

F. An EMS agency may appeal a decision of the Medical Control Authority. The EMS Agency must follow the **Disciplinary Action Appeal** policy.

VI. A licensee must notify the MCA of disciplinary action from the State of Michigan.

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Quality Improvement Policy

Purpose: The purpose of this policy is to establish the requirement for a defined Quality Improvement process within the Medical Control Authority (MCA) and with agencies holding medical control privileges. This policy provides a means for evaluation and improvement of protocol and EMS system components and design.

I. Confidentiality Assurance

Information obtained for the purpose of Quality Review will be used to determine if the current protocols in the MCA are being appropriately followed and to improve the protocols and the EMS system. Data is protected under P.A. 270 of 1967, MCL 331.531 to 331.533.

In specific cases where EMS providers may require corrective actions, the emergency medical services personnel names may be given to the agency to address at the agency level.

II. Professional Standards Review Organization

A. The Professional Standards Review Organization (PSRO) of the MCA is a review entity that is provided information or data regarding the physical or psychological condition of a person, the necessity, appropriateness, or quality of health care rendered to a person, or the qualifications, competence, or performance of a health care provider. The PSRO is a committee established by the MCA for the purpose of improving the quality of medical care and oversight of appropriate protocol compliance within the EMS system.

B. Agencies shall develop institutional PSROs for the purpose of internal review and improvement. For the purpose of this protocol, PRSO is meant to refer to the PSRO of the MCA.

C. The MCA's designated PSRO shall perform the duties and functions related to complaints, investigations or quality improvement activities, both prospective and retrospective.

D. The PSRO may be comprised of members of the board(s), MCA employees and contract staff, EMS agency staff, hospital staff, committee members, and other designated individuals when acting on behalf of, or at the direction of the MCA when performing PSRO tasks.

E. All Quality Improvement activities shall be performed by the PSRO, and all documents collected for Quality Improvement activities shall be held by the PSRO subject to Michigan's peer review privilege.[1]

[1] MCL 331.531 *et seq*.

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III. Data Collection

A. Electronic Patient Care Reports (EPCR)

The MCA is authorized to obtain access to EPCR originating within their service area; this includes all scene responses, interfacility transfers and critical care transfers. The Medical Control may elect to receive reports on request.

B. MI-EMSIS Data Collection

1. Providers and agencies are required to report per the **Patient Care Record, Electronic Documentation and EMS Information System** procedure.
2. Agencies shall work in cooperation with the MCA, under PSRO, to ensure the quality, consistency and accuracy of data submitted through MI-EMSIS.
3. The MCA shall maintain access to the MI-EMSIS data and ensure that agencies are accountable for the submission of data.
4. MI-EMSIS data should be utilized as a tool for the evaluation of performance and function as a driving mechanism for quality improvement.

C. Other Electronic Data Collection

The MCA is authorized to obtain electronic data and voice recordings from any and all EMS agencies and/or departments, and dispatch agencies with interaction with callers requesting a medical response within the MCA service area. This includes mutual aid responses into the MCA service area. Data will be provided to the MCA's PSRO on a monthly basis or when individual records, recordings and reports are requested. The Medical Control may elect to receive electronic reports on a more frequent schedule.

D. Ownership of Records

Any documents or data relating to requests for service, records of provided services, records of refused services, dispatch reports and incident reports including all aggregated reports for benchmarking and analysis which are submitted to the PSRO of the MCA, or generated by the PSRO, are privileged. The MCA's PSRO holds ownership of only protected Quality Improvement documents. The submitting agency maintains ownership of any and all original records generated by their agency and personnel.

E. Incident Report Collection

1. Incident reports and requests for additional information directed to an individual provider or to an EMS agency/department requested by the MCA/PSRO must be submitted to the MCA/PSRO within 96 hours.
2. The MCA may establish an online reporting system.

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IV. Data Review

A. Agency PSRO Responsibilities
Each agency, or department licensed to provide prehospital care, within the MCA area must develop and maintain a PSRO subgroup that reviews, either through a peer evaluation group or individuals tasked with peer review functions, and conducts audits requested by Medical Control.

B. Special Studies
All EPCR that include the use of equipment, skills, techniques or procedures that are currently under special study will be reviewed.

C. Unusual Occurrences
Any EPCR that are unusual and possibly one-time situations that may serve as a learning tool for other services in the future may be reviewed.

D. Problem Identification
1. Potential concerns in patient care may be brought to the attention of the PSRO of the MCA.
2. Topic quality improvement reviews will be performed with results reported to the Medical Control Authority.

E. Sentinel Event Reporting
1. The Medical Control Authority may designate specific items that must be reported.
2. Any intervention where it is reasonable to believe that harm to the patient may have occurred must be reported.

VI. Quality Review Criteria

A. Medical Control Authority Protocols
1. The current protocols in place at the time of the event will be used to review the EPCR selected.
2. Any changes in protocols will not be used for evaluation until the changes are approved and distributed.

B. Dispatch Policies
The review of the EPCR may address dispatch, location, response time, or mutual aid/multi-agency problems.

VII. Quality Improvement Actions

The PSRO, the Medical Director or his/her designee will determine the severity of the incident and develop an action plan to address the matter. The action plan may include:

A. Revision of policies/procedures
B. Remediation of individuals involved
C. Education recommendations for the system
D. Referral to Due Process and Disciplinary Procedures Protocol

E. Modification of clinical privileges
F. Continued monitoring

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Incident Classification

Purpose: To establish a process for the classification of Incidents reviewed by the MCA. Incidents will be divided into two categories, Level I and Level II.

Discretionary Powers
If the Medical Control Authority determines that an immediate threat to the public health, safety, or welfare exists, appropriate action to remove medical control privileges can be taken immediately and until the Medical Control Authority has had the opportunity to review the matter. A Professional Standards Review Organization (PSRO) hearing shall be held within three business days after the Medical Control Authority's determination to remove medical control. The Medical Director or his /her designee shall determine the personnel needed for the hearing.

Receipt and Investigation of Incidents
When the MCA becomes aware of a potential violation of the state approved policies, procedures, protocols, or statutes, the Medical Director, his/her designee, or the PSRO of the MCA will investigate the complaint per the state approved **Complaint Investigation Policy**.

Classification of Complaints
Complaints determined to be valid will be reviewed and will be classified using the criteria below. These criteria are for example purposes and do not form an all-inclusive list of potential violations. Violations that are substantively similar in type or severity will fall under the closest, most appropriate classification category.

Level I Incidents
The following categories of incidents are defined as Level I incidents:

1. Willful neglect of a patient
2. Abandonment of a patient
3. Failure to obey a medical control physician's legitimate orders either by omission or commission in the presence of good communications.
4. Improper and inappropriate care which may result in compromise of wellbeing of the patient
5. Conviction of a felony or misdemeanor
6. Two or more Level II offenses in any six month period *
7. Breach of Confidentiality
8. Intentional falsification of EMS documentation, including patient care records.
9. Found to be under the influence of drugs or intoxicants while involved with patient care.
10. Violation of the EMS statute and its attendant rules and regulations, including care outside the scope of practice, as defined by protocol.
11. Practicing in the MCA without a current Michigan EMS provider license.
12. Practicing in the MCA without current privileges on two separate occasions within a single licensure period. Certifications required by the MCA in order to maintain privileges are identified in the Authorization for **Medical Control Privileges** Policy.

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13. Any other patient care offense resulting from violation of policies, protocols and procedures of similar severity not listed above at the discretion of the EMS Medical Director.
14. Failure to complete prescribed remediation from a previous incident. (Or see #14 of LEVEL II)
15. Arrest or criminal charges for criminal sexual conduct of any degree, violent crime, drug diversion or illegal possession or distribution of controlled substances.
16. Failure to notify the MCA of a criminal charge, arrest or conviction within 1 business day
17. Gross negligence or willful misconduct

* Time measured from the time of occurrence of the initial incident to the time of occurrence of the succeeding event.

Level II Incidents

The following categories of incidents are defined as Level II incidents:

1. Failure to adhere to system protocols, policies and procedures that had the potential to negatively impact patient care, as determined by the EMS Medical Director.
2. Failure of personnel or agency to respond within 96 hours of receipt of requests for information or documentation regarding an incident under investigation by the MCA. A response shall be submitted in writing and with a signed delivery receipt to MCA staff within the allotted time period.
3. Abuse and/or loss of system equipment due to neglect.
4. Significant documentation errors
5. Failure to accurately perform procedures as defined in protocols, policies and procedures.
6. Failure to check and maintain functional equipment necessary to provide adequate patient care at the level of licensure, the failure of which may lead to an inability to communicate with medical control, inability to administer appropriate medications, or otherwise negatively affecting the ability of the personnel to function at his/her level of training in the field. This includes verification that a sealed drug and IV box, functional monitor/defibrillator, functional airway equipment, etc. are present on the unit.
7. Improper or unprofessional medical communications including, but not limited to, any violation of Federal Communications Regulations, and falsification of identification during medical communications.
8. Failure to appear before the EMS Medical Director, designated PSRO committee or MCA Governing Body when so requested by the MCA, as defined in the Complaint Investigation, Quality Improvement and Disciplinary Action Policies.
9. Furnishing of information known to be inaccurate in response to any official request for information relative to quality improvement activities or other investigations subsequent to this policy.

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10. Two or more orders of disciplinary action within a 6 month period **
11. Any other patient care offense resulting from violation of policies, protocols and procedures of similar severity not listed above at the discretion of the EMS Medical Director.
12. Practicing in the MCA without current credentials required in order to maintain privileges, as identified in the Authorization for Medical Control Privileges Policy.
13. Medication error, which has a negative impact on patient care.
14. A determination by the designated PSRO Committee of failure to complete prescribed remediation within the prescribed time frame.

** Time measured from the time of occurrence of the initial incident to the time of occurrence of the succeeding event.

Due Process and Disciplinary Actions
The application of disciplinary measures shall be defined by the state approved **Due Process and Disciplinary Action** Protocol.

Appeal Process
An appeal may be filed according to the **Disciplinary Action Appeal** Protocol.

Reapplication after Revocation
Following revocation of an involved party's privilege to practice in the MCA, the involved party may reapply to the MCA for privileges after no less than 24 months have elapsed from the date of revocation. Those issued a permanent revocation may not reapply for privileges at any time.

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APPENDIX E

Defendant's Supplemental Brief

Docket No. 159205

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BETP
Bureau of EMS, Trauma & Preparedness

MICHIGAN
State Protocols

Protocol Number | **Protocol Name**

Medications
Table of Contents

9.39	Ondansetron
9.40	Prednisone
9.41	Sodium Bicarbonate
9.42	Tetracaine
9.43	Transexamic Acid

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Medication Administration

Information:

EMS providers preparing to administer medications in the out of hospital setting should review and/or recite the "6 Rights" prior to administering any medication to a patient. While all 6 elements are important, In the out of hospital setting, special attention should be paid to the right medication, right dose, and right route - as these are frequently the areas of error in the EMS environment. In addition, EMS providers should ensure the patient is informed as to what medications they are receiving, and afford an opportunity for the patient to refuse. Lastly, documentation is essential so that medications administered in the out of hospital setting become part of the patient's clinical medical record. By following the "6 Rights" of medication administration, EMS providers will significantly decrease the potential and number of errors associated with medication administration.

Definitions:

I. Medication: Any pharmacological intervention used to treat, prevent, or reduce signs and symptoms of diseases, disorders, and/or traumatic injuries.

II. Medication administration routes include the following: Intramuscular, Intravenous, Intraosseous, Oral, Buccal, Rectal, Inhaled, and Subcutaneous.

Procedure:

I. Prior to the administration of any medication ensure the following are reviewed and/or verbalized by at least two providers – if available (checked, and double checked):
   A. 6 Rights of Medication Administration –
      1. Right Patient
      2. Right Dose
      3. Right Medication
      4. Right Route
      5. Right Time
      6. Right Documentation
   B. Following administration of controlled medications, EMS personnel shall follow their individual department's policy on the correct accounting, disposal, and restocking of these medications.

II. Calculating medications when given a dosage range and a per kg dose:
   A. Calculate weight in kilos and multiply by the prescribed dosage (e.g. - mg/kg)

   B. The resultant dose should be less than the maximum single dose.
      1. In adults, for ease of administration, doses may be rounded to the nearest whole number within the range for those calculated doses at or above 1 dosage unit, or to the nearest tenth for those below 1 dosage unit (examples: 1.2 mg rounded to 1 mg, and 0.26mg rounded to 0.3mg). That calculated and rounded dose may be given and repeated in timed intervals, as indicated for that medication, to the control of symptoms or maximum stated cumulative dose if symptom control is not previously achieved.
      2. For pediatric patients, utilize MI-MEDIC and a length based tape for all medication calculations.
   C. Pediatric patients will never be given a single or total dose that exceeds the maximum single or total adult dose.

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Medication Substitution

Purpose:

This protocol allows for MCA to substitute medications during a time of shortage without having to enact emergency protocols within the MCA. This protocol does not replace or override any portion of the **Medication Shortage Procedure**. All procedures within that procedure must still be followed in regards to substitutions in concentration or medication.

Indications:

1. Medications indicated in the primary protocol are not available.
2. No other medication is listed in primary protocols as accepted by the MCA for use.

Procedure:

1. Follow **Medication Shortage Procedure.**
2. Alternate concentrations are listed within this protocol for reference; these do not require a protocol change and are outlined in the **Medication Shortage Procedure.**
3. Notification and education of providers within the MCA should be done as soon as the substitution is known.
    a. It is the responsibility of the MCA to distribute information on the shortages and substitutions to agencies for distribution to providers.
    b. If a substitution is imminent, it is acceptable for an MCA to distribute information prior to the medication being substituted.
4. The MCA should notify the Division of EMS and Trauma if a substitution is suspected to last more than 60 days so that a more permanent protocol solution can be enacted.
5. All uses of substitute medications will be reviewed by PSRO for appropriateness.

Current Medication	Alternate A	Alternate B	Protocols
Atropine	Epinephrine 2-10 mcg/min infusion Pediatric 0.1 mcg/kg/min	Transcutaneous Pacing	**Bradycardia**
Amiodarone	Lidocaine 1-1.5 mg/kg IV Pediatric 1 mg/kg IV	Procainamide 20 mg/min, max 17 mg/kg IV/IO Pediatric 15 mg/kg IV/IO over 60 minutes	**Adult and Pediatric Cardiac Arrest – General** **Adult and Pediatric Tachycardia**
Calcium Chloride	Calcium Gluconate 20 ml of 10% solution administered over 1 to 2 minutes IV (adults only)		**Poisoning/Overdose** **Cardiac Arrest – General (Adult)**
Dextrose 50%, 50 ml	Dextrose 10%, 250 ml IV Pediatric Dextrose 10% 5 ml/kg IV	Glucagon 1 mg Pediatric 0.05 mg/kg, up to 1 mg IM	**Adult and Pediatric Altered Mental Status** **Adult and Pediatric Seizures**
Diphenhydramine	Famotidine 20 mg IV Pediatric 0.25 mg IV Or Ranitidine 50 mg IV Pediatric 0.1 mg/kg IV	Hydroxyzine 50 mg IM Pediatric 0.1 mg/kg IM	**Allergic Reaction**

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Lidocaine	Amiodarone: 1. For Recurrent VF/VT: Adults 300 mg IV/IO repeat 150 mg one time. Pediatrics 5 mg/kg IV 2. Wide complex Tach 150 mg x 2 PRN, pediatric 5 mg/kg IV	Procainamide 20 mg/min, max 17 mg/kg IV/IO Pediatric 15 mg/kg IV/IO over 60 minutes	**Adult and Pediatric Cardiac Arrest – General** **Adult and Pediatric Tachycardia**
Morphine	Fentanyl 1 mcg/kg	Hydromorphone 2 mg IV or IM Pediatric 0.05 mg/kg max dose 2 mg	**Pain Management**
Fentanyl	Morphine 4 mg IV/IO Pediatrics 0.1 mg/kg IV	Hydromorphone 2 mg IV or IM Pediatric 0.05 mg/kg max dose 2 mg	**Pain Management**
Midazolam (Versed)	Lorazepam 2 mg or 0.05 mg/kg IV	Diazepam 5 mg IV Pediatric 0.1 mg/kg	**Adult and Pediatric Seizures** **Patient Sedation** **Excited Delirium**
Ondansetron (Zofran)	Promethazine 12.5 mg IM Pediatric 0.25 mg/kg IM	Compazine 10 mg Pediatric 0.1mg/ kg	**Nausea/Vomiting**
Diazepam (Valium)	Midazolam 5 mg IV Pediatrics 0.1 mg/kg	Lorazepam 2mg IV Pediatrics 0.1 mg/kg IV	**Adult Seizures**
Ketamine	Midazolam 5 mg IV Pediatrics 0.1 mg/kg	Fentanyl 1 mcg/kg	**Patient Sedation** **Excited Delirium**
Midazolam	Patient Sedation: Ketamine 0.2 mg/kg IV/IO slowly Excited Delirium Adults only 4 mg/kg IM	Lorazepam 2mg IV Pediatrics 0.1 mg/kg IV	**Patient Sedation** **Excited Delirium**
Epinephrine 1mg/10ml	**Epinephrine 1mg/1ml 30mL Vial** 1. Expel 1mL of normal saline from a 10mL syringe (pre-filled) 2. Instill 1mg(mL) of Epinephrine 1:1,000 from 30 mL vial in to pre-filled syringe 3. 30mL vials are to be single patient use only		
	Epinephrine 1mg/ml Ampule 1. Expel 1mL of normal saline from a 10mL syringe (pre-filled) 2. Instill 1mg(mL) of Epinephrine 1:1,000 from ampule in to pre-filled syringe		

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Medication Shortage

A. Definitions:

1. ***Alternate Concentration*** – same medication, different concentration, while volume may change, the delivered dose remains unchanged, dilution may be required (*Epinephrine 1: 10,000 replaced using Epi 1: 1,000 with a 10mL diluent)*
2. ***Alternate Supplied Volume –*** same medication, same concentration, standard volume is unavailable, the delivered dose and volume remain the same *(Epi 1: 1,000, typically supplied in a 1mL vial replaced with Epi 1: 1,000 in a 10mL multi-dose vial due to shortage of the smaller vials)*
3. ***Alternate Supply/Type –*** same medication, standard supply type is unavailable (preloads vs. vials), dosing remains unchanged *(diphenhydramine 50mg/5mL preload is unavailable, replaced with diphenhydramine 50mg/5mL in a vial)*
4. ***Alternate Form*** – same medication, different route such that identical dosing does not yield the same systemic concentration or effect *(ondansetron 4mg vial unavailable, replaced with ondansetron 4mg ODT, option to repeat x 1 added to allow approximation of equivalent dosing)*
5. ***Alternate Medications*** – medication other than the standard approved medication which accomplishes an acceptably similar effect as the medication it replaces *(fentanyl 100mcg approved to replace morphine 10mg, dosing adjusted to obtain therapeutic equivalency)*
6. ***Missing Medication*** – standard medication which is unavailable *(amyl nitrite not available, acceptable alternative of Cyanokit is excessive in cost and size: alternate means to access treatment established – MEDDRUN)*

B. Criteria:

1. Each EMS Medication Management System (MMS), be it at the individual MCA or at a wider regional level, shall establish and maintain a listing of the standard medications and supplies contained in drug bags or boxes supplied to life support agencies for the purposes of treating patients.
2. Each MMS shall maintain a dated listing of alternative medications which are approved as substitutes or replacements for medications which are in shortage.
3. Due to the frequency of medication shortages and the need for alternative dosing or medication substitutions, each MCA shall develop and enact a medication cross-check procedure, to which EMS personnel will be held accountable as a means to avoid medication errors
4. Both the standard list and the alternate list (may be combined into a single document) shall be made readily available to system participants
5. The MMS shall enact policies/procedures which guide each of the following:
   A. Recognition of medication shortages and a means to report them
   B. Pharmacy involvement in the investigation and designation of acceptable alternatives when shortages are identified
   C. An organized process by which participant pharmacies will enact the replacement or substitution

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D. A documented means of visually identifying when an alternative medication or dosing has been placed into an EMS drug bag or box, or when a medication is missing
    a. ***Alternate medications*** will be indicated by the placement of a sticker, tag or label on the outside of the bag or box; on the compartment where the alternate medication is located (if applicable) such that one inspecting the bag or box could easily recognize that the medication was included and what the missing medication it is intended to replace was. (Stickers GREEN or WHITE with GREEN)
    b. ***Missing medications*** will be signified by the placement of a sticker, tag or label on the outside of the bag or box, on the compartment where the missing medication would be located (if applicable) such that one inspecting the bag or box could easily recognize that the medication was missing and what the potential alternate medication was. (Stickers YELLOW or WHITE with YELLOW)
E. A method for dissemination of information related to changes made to the MMS drug bags or boxes with a means of accounting for receipt of the notifications at the agency/pharmacy levels

C. Selection of Alternative Medications:

1. Alternative concentrations, alternative supply/type and alternative supplied volume may be approved at the MCA/MMS level without a change to protocol provided that the standard and approved alternate medications are documented in the required lists, by effective date or date range.
2. Alternate form and alternate medications may be enacted as an emergency protocol according to statute and state approval, in the event of imminent shortage.
3. Non-standard medications, or those with no precedence of EMS use within Michigan must be submitted as new protocol submissions. The state may allow for expedited review in the event of imminent shortage of the medication being replaced.
4. If a missing medication will not be replaced, or an acceptable alternative is not found, a protocol or process should be developed or presented which addresses the potential inability to meet the existing protocol established standard of care.

D. Process:

1. A brightly colored ALTERNATE DOSE sticker/tag MUST be attached to the outside of the drug bag, box or narcotics box that lists the effected medication, the concentration of the substituted medication, the expiration date of the medication and the pharmacy name/date.
2. A brightly colored – MISSING MEDICATION sticker/tag must be placed on bags/boxes when a protocol medication is not available to stock in that bag/box.
3. A dosing/instruction card may be required to be included in the bag/box depending on the change.

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4. Pharmacies experiencing shortages must provide notification of the need to utilize alternate dosing to the MCA and the drug exchange coordinator, and receive approval, prior to any change being implemented.
5. Drug bags, boxes or narcotics boxes with alternate dose medications/missing medications should have the medication replaced and the sticker/tag removed by pharmacy as soon as possible when the proper medication or concentration of medication is available.
6. Any additional equipment, which is needed to deliver the medication, must be included with the alternate dose. *(I.e. – Medication is typically in a carpuject but a vial is being substituted due to shortages of the carpuject version. An appropriately sized safety needle and syringe must be available within close proximity to the medication in order to facilitate administration. These supplies too may be removed when the proper medication concentration is returned to the bag/box.)*
7. EMS Agencies receiving notice of the utilization of alternate dosing, alternate medications or missing medications due to shortage must post the changes and ensure that all providers that may have cause to use the medications are made aware of the changes and are educated on proper use, risk and dosing of any new or replacement medication prior to their first potential exposure to the alternate dose or medication.
8. Any Special Instruction for a particular shortage will be communicated to all effected pharmacies and EMS services.

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Intranasal Medication Administration (Optional)

☐ Medical Control Authorities choosing to adopt this supplement may do so by selecting this check box. Adopting this supplement changes or clarifies the referenced protocol or procedure in some way. This supplement supersedes, clarifies, or has authority over the referenced protocol.

Purpose: This optional procedure authorizes intranasal medication administration by paramedics (and other levels of licensure, for naloxone) using an FDA-approved atomizing device. This procedure authorizes the substitution of the intranasal route for other routes specified in individual protocols as approved for specific indications stated below by the local medical control authority.

Indications: In general, the intravenous route is preferred for medication administration. This procedure may be considered when IV access is unavailable and when a needleless delivery system is desired because of patient agitation, combativeness, or similar conditions that may pose a safety risk to personnel.

CHECK MCA APPROVED INDICATION

☐ Pain Management
☐ Altered Mental Status with Suspected Opiate Overdose
☐ Sedation
☐ Seizures

1. Select desired medication and determine dose (See Medication Table).
2. Draw up appropriate dose (volume) of medication plus an additional 0.1 mL to account for device dead space.
3. Attach atomizing device to syringe.
4. Use one hand to support back of patient's head as needed.
5. Place tip of atomizing device snuggly against nostril aiming slightly upward and outward.
6. Rapidly administer one half of the dose of medication, briskly pushing plunger.
7. Repeat with other nostril delivering the remaining volume of medication.
8. Use the highest concentration available for the medication.
9. Note: Maximal dose per nostril is 1 cc.

Indication	Medication
Suspected Opiate Overdose	Naloxone (1mg/1mL)
Sedation/Seizures	Midazolam
Adult Pain Control	Fentanyl
Adult Pain Control/Sedation	Ketamine
Pediatric Pain Control	Fentanyl
Pediatric Sedation/Seizure	Midazolam
Pediatric Pain Control/Sedation	Ketamine

10. Dosing is outlined in each protocol.

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Field Drug Box and IV Kits

I. Emergency medical service vehicles will be equipped with drug boxes and IV kits consistent with their licensure level and protocols.

II. IV kits and drug boxes will be prepared by participating hospital pharmacies prior to each patient use. The pharmacy will seal and secure the drug box and IV kits.

III. Drug boxes and IV kits will be labeled with a pharmacy label which contains, at a minimum:
   A. The name of the re-stocking pharmacy
   B. The name or initials of the certifying pharmacist
   C. The expiration date of the box or kit (and ID of first expiring med)
   D. The date the box or kit was refilled
   E. The tag number of the locks assigned to the box.

IV. Licensed EMS personnel will assure that a proper seal is in place on any drug box or IV kit when it is provided by the participating pharmacy. The ambulance agency and licensed EMS personnel are responsible for the security of the medications and supplies.

V. Drug boxes and IV kits shall be locked and secured in the EMS vehicle, except when required for patient care. Each agency will have a procedure in place to ensure controlled access to the drug box.

VI. Licensed EMS personnel will document the medications used from the drug box and/or IV kit. A physician, PA or NP signature is required as part of the documentation when controlled substances are administered. The documentation will accompany the sealed drug box when returned to a secure location for pharmacy exchange.

VII. Whenever controlled substances are used from a drug box, any unused or contaminated drug must be disposed of in the presence of a licensed hospital employee or physician authorized to dispense that medication. This witness shall also sign their name on a patient care record, attesting to the disposal of the unused drug.

VIII. Opened syringes, needles, and any broken glass ampules will be properly disposed of and not left in the drug box. It is the responsibility of the licensed EMS personnel to clean any blood or body fluids from the inside of the drug box before it is returned to the pharmacy.

IX. The pharmacy shall routinely inspect these medications and will verify the contents and replace the medications as necessary.

X. If a pharmacy or agency discovers a discrepancy in drug box contents, they shall contact the last pharmacy or agency which had possession of the box and mutually resolve the discrepancy. The pharmacy/agency, which discovered the discrepancy, shall submit a report to the medical control authority documenting the circumstances and the resolution. If the pharmacy and agency are not able to arrive at a mutually agreeable solution, the issue shall immediately be forwarded to the medical control authority for investigation and resolution.

XI. The contents of the drug box are subject to inspection at any time by participating hospital pharmacy staff or by the medical control authority.

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Pharmacy, Drug Box and IV Supply Exchange Procedure

1. Pharmacies operated within the member hospitals of the medical control authority participate in the medication exchange system established by this protocol.

2. The pharmacy is responsible for ensuring that re-stocked EMS drug boxes and IV supplies are available to EMS units who bring in a used box for replacement. The Administrative Rules of the Michigan Board of Pharmacy (R 338.486(4)(c) require that "The pharmacist shall routinely inspect these medications and, after use, shall verify the contents and replace the medications as necessary".

3. The pharmacy is responsible for providing a secure environment for restocked drug boxes and IV supplies awaiting pickup by an EMS unit and used boxes brought back for restocking.

4. Upon receiving a used box from an EMS service, the pharmacy will check to assure that the box is properly sealed and contains documentation of medication use, signed by a physician for drug exchange, is in the box. The documentation will be checked, by the pharmacist, against the remaining contents of the box to assure accountability for all medications. The pharmacy will design a system whereby EMS units present appropriate documentation when replacing used IV supplies.

5. The pharmacy will replace the used contents of the drug box and IV supplies, and verify that all supplies and medications listed on the medical control authority drug box inventory form are present. The box will be sealed and secured.

6. The refilled drug box will then be relabeled with a pharmacy label which contains, at a minimum:
    A. The hospital name
    B. The name or initials of the pharmacist checking the box
    C. The date the box was restocked and checked.
    D. The expiration date of the first drug to expire in the box (this date must be at least three months from the date the box is being restocked and checked).
    E. The tag number of the locks assigned to the box.

7. Drug box contents remain the property of the participating pharmacy. The box itself is owned by the entity (EMS or hospital) that purchased it and entered it into the system. The medical control authority will maintain a listing of the drug box numbers currently "in service", and will assign new drug box numbers, as needed.

8. The Director of Pharmacy at each participating hospital is responsible for assuring compliance with this policy.

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Epinephrine Auto-Injector Procedure

Aliases: Epi-Pen ®

Purpose: To allow use of epinephrine auto-injector/pediatric epinephrine auto-injector for life-threatening anaphylaxis by authorized prehospital providers licensed at or above the Emergency Medical Technician level. *If MCA selected, epinephrine auto-injectors are approved for Medical First Responder use.

MCA Approval of Epinephrine Auto-injector for Select MFR Agencies
(Provide List to BETP)
☐ YES ☐ NO

1. **Indications**
   A. Life-threatening allergic/anaphylactic reactions
   B. Use with Allergic Reaction/Anaphylaxis Protocol
2. **Contraindications**
   A. No absolute contraindications to life-threatening anaphylaxis
   B. Caution: Use with caution in patients with heart disease, high blood pressure, and stroke.
   C. Patient weight less than 10 kg.
3. **Technique**
   A. Epinephrine auto-injector is an auto-injector that injects medication into the intramuscular tissue when the device is pushed against the skin. Injection is to be done at the anterolateral portion of the thigh.
   B. Dosing: Epinephrine auto-injector (0.3 mg) is used for patients weighing over 32 kg. Pediatric epinephrine auto-injector (0.15 mg) is used for patients weighing at least 10 kg.
   C. Instructions for use are pictured on the side of each auto-injector.
   D. The auto-injector must be held in place for ten (10) seconds once the needle injects into the thigh.
4. **Documentation**
   A. EMS providers will note any changes in the patient's condition and report those changes to on-line medical control and document changes on the run form and complete the Epinephrine Auto-injector Utilization Form.
5. **Accountability**
   A. Epinephrine auto-injectors will be stored in a securely locked compartment in a temperature controlled area of the EMS vehicle.
   B. Epinephrine auto-injectors must be restocked at the pharmacy or through other Medical Control approved process in conformity with current pharmacy laws and the public health code. Utilization forms must be completed for each use.

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Epinephrine auto-injector Utilization Form
(To be used by Hospital)

Drug	Standard	Quantity	Count	Exp. Date
Epinephrine auto-injector	0.3 mg	1	_____	_____
Pediatric Epinephrine auto-injector	0.15 mg	1	_____	_____

Run Date _____

Patient Name _____

Physician _____

EMT _____

Receiving Hospital _____

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Nebulized Bronchodilators

Indication

1. Patient with respiratory distress and wheezing.
2. When indicated under specific treatment protocol.

MCA Selection for Nebulizer

☐ EMT-B
☐ Specialist
☐ Paramedic

Procedure

1. Obtain vital signs and lung sounds.
2. Place the appropriate volume of medication in the lower half of the nebulizer unit. Then screw the upper half of the unit in place.
3. Attach the nebulizer to the base of the T piece. Then attach the mouthpiece to the T piece or connect neb chamber to NRB mask.
4. Attach one end of the oxygen tubing to the base of the nebulizer and the other end of the oxygen tubing to the oxygen source.
5. Set the oxygen liter flow at 6 L/min.
6. Instruct the patient to breathe normally through the mouthpiece, taking a deep inspiration every 4 or 5 breaths.
7. Continue the treatment until all the medication has been delivered through the nebulizer. You may need to gently tap the reservoir once or twice during the treatment to re-disperse the medication.
8. Obtain and record another complete set of vital signs and lung sounds after completion of the treatment.

Medication Dosage

1. Administer Albuterol 2.5 mg/3 ml NS nebulized, if available, repeat as indicated.
2. Administer treatment number one as Albuterol 2.5 mg/3 ml NS and Ipratropium 500 mcg/3 ml NS nebulized if wheezing or airway constriction.
3. Per MCA selection administer additional bronchodilator treatments as Albuterol 2.5 mg/3 ml NS nebulized OR Albuterol 2.5 mg/3 ml NS and Ipratropium 500 mcg/2.5 ml NS nebulized, as needed, if wheezing or airway constriction persists. For patients **age 5 or under**, Ipratropium .25 mg should be given in conjunction with albuterol.

ADDITIONAL BRONCHODILATOR TREATMENTS

☐ Albuterol 2.5 mg/ 3 ml NS
OR
☐ Albuterol 2.5 mg/3 ml NS and Ipratropium 500 mcg/2.5 ml NS

Pediatric Considerations

.. Infants and small children may not be able to use adult mouth piece and may need to use blow-by or pediatric mask.

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Naloxone Administration

Aliases: Opioid overdose medication

Indications: Decreased level of consciousness associated with respiratory depression from **Opioid Overdose,** without other apparent cause (e.g., stroke, hypoglycemia).

MCA Selection for Naloxone Administration

☐ MFR ☐ EMT

Procedure:

Consider administration of Naloxone when:

1. Ventilations have been established and patient has not regained consciousness.
2. There is more than 1 rescuer on scene for personnel safety precautions.
3. Treatment goal is to restore effective respirations; the patient need not be completely awakened.
4. Per MCA Selection (below), administer Naloxone intramuscular auto injection OR Intranasal via prefilled syringe with atomizer (half the dose in each nostril), OR Narcan® Nasal Spray. May repeat one time in 3-5 minutes if effective respirations not restored.

MFR/EMT Administration Options (MUST SELECT AT LEAST ONE):

☐Naloxone Intramuscular Auto Injector 0.4mg IM (Adults Only)

☐Narcan® Nasal Spray 4 mg (Adults Only)

☐Naloxone Prefilled-2 mg/2 ml IN via Atomizer

- Adult and child over 3 years: 2ml
- Pediatric Dosing:
  - Up to 3 months: 0.5 ml
  - 3 months up to 18 months: 1 ml
  - Children 19-35 months: 1.5 ml

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5. Administer Naloxone IM, IN or slowly IV, titrating to restore effective respirations.
   a. Adult: 2 mg IM, IN or IV
   b. Pediatric: 0.1mg/kg IM/IN/IV-Refer to the MI-MEDIC Cards for proper dosing.

SPECIALIST/PARAMEDIC Administration Options (Must select at least one):

☐Naloxone 2.0 mg/2ml IM, or IV

- Adult and child over 3 years: 2ml.
- Pediatric Dosing:
  - Up to 3 months: 0.5 ml
  - 3 months up to 18 months: 1 ml
  - Children 19-35 months: 1.5 ml

☐Naloxone Prefilled-2 mg/2 ml IN via Atomizer –

- Adult and child over 5 years: 2 ml
  - Distribute half of the dose in each nostril.
  - Up to 3 months: 0.5 ml
  - 3 months up to 18 months: 1 ml
  - Children 19-35 months: 1.5 ml

6. Repeat every 3-5 minutes as needed to restore effective respirations. Note IN Naloxone should only be repeated one time.
7. Treatment goal is restoration of effective respirations; the patient need not be completely awakened.
8. Transport supporting ventilations as needed
9. Notify medical control.

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2-Pam Chloride/DuoDote

Protocols:

1. Nerve Agent Organophosphate exposure

Indications:

1. Exposure to organophosphate or nerve agents
2. Given in conjunction with atropine in DuoDote or Mark-1 kit

Contraindications:

1. None

Dosing:

1. Self-Rescue – 1 DuoDote (Mark-1) Injector
2. Mild Reaction
    a. Adults (8 years and over) – 1 DuoDote (Mark-1) Injector
    b. Pediatrics – Contact Medical Control
3. Moderate Reaction
    a. Adults (8 years and over) – 2 DuoDote (Mark-1) Injectors
    b. Pediatrics – Contact Medical Control
4. Severe Reaction
    a. Adults (8 years and over) – 3 DuoDote (Mark-1) Injector
    b. Pediatrics – 1 DuoDote (Mark-1) Injector, Contact Medical Control as needed

Expected Effects:

1. Decrease in symptoms

Side Effects:

1. Blurred vision
2. Headache
3. Dizziness
4. Nausea

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Acetaminophen

Protocols:

1. Pediatric Fever
2. Pain Management (per MCA selection)

Indications:

1. Fever
2. Mild pain

Contraindications:

1. Hypersensitivity
2. Known severe acute liver disease

Dosing:

1. Adults – 15 mg/kg PO, maximum dose 1 gm
2. Pediatrics – 15 mg/kg PO, maximum dose 500 mg

Expected effects:

1. Decrease temperature
2. Pain Relief

Side effects:

1. Nausea/vomiting

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Adenosine (Adenocard)

Protocols:

1. Tachycardia (Adult and Pediatric)

Indications:

1. Specifically for treatment of Supraventricular Tachycardia.
2. Consider for regular or wide complex tachycardia.

Contraindications:

1. Sick sinus syndrome
2. Hypersensitivity to adenosine
3. 2nd or 3rd degree heart block

Dosing:

1. Adult
    a. 6 mg rapid IV/IO push over 1-3 seconds
    b. Repeat at 12 mg after 1-2 minutes, if no conversion
    c. Medication should be followed by a rapid 30 ml NS bolus
2. Pediatric
    a. 0.1 mg/kg IV/IO rapid bolus. (Max dose 6 mg)
    b. Repeat at 0.2 mg/kg after 2 minutes (Max dose 12 mg)
    c. Medication should be followed by rapid 5-10 ml NS flush

Expected Effects:

1. Slowed conduction through the AV node
2. Conversion to NSR

Side Effects:

1. Hypotension
2. Flushing
3. Dyspnea
4. Light-headedness
5. Nausea

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Albuterol (Ventolin®)

Protocols:

1. Nebulized Bronchodilators
2. Crush Injury
3. Adult and Pediatric Respiratory Distress
4. Adult and Pediatric Allergic Reaction/Anaphylaxis

Indications:

1. Bronchospasm (wheezing)
2. Crush injury syndrome with evidence of hyperkalemia

Contraindications:

1. Hypersensitivity to albuterol

Dosing:

1. Adults and pediatric
    a. 2.5 mg in 3 ml NS via nebulizer

Expected Effects:

1. Dilated bronchi
2. Improvement in capnographic waveform (if available)

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Amiodarone (Cordarone)

Protocols:

1. General Cardiac Arrest – Adult and Pediatric
2. Tachycardia - Adult

Indications:

1. Recurrent ventricular fibrillation or recurrent pulseless ventricular tachycardia
2. Recurrent hemodynamically unstable ventricular tachycardia
3. Stable ventricular tachycardia in consultation with online medical control

Contraindications:

1. Hypersensitivity to Amiodarone

Dosing:

1. Adult
    a. Cardiac Arrest – persistent shockable rhythm
        i. 300 mg IV/IO
        ii. May repeat one time at 150 mg IV/IO
    b. Tachycardia
        i. Wide complex symptomatic but stable
        ii. 150 mg IV over 10 minutes
2. Pediatric – Persistent shockable rhythm in cardiac arrest
    a. 5 mg/kg IV/IO
    b. Max dose 300 mg
    c. May be repeated up to 2 more times (max total dose 15 mg/kg or 450 mg total)

Expected Effects:

1. Prolongs refractory period
2. Inhibits alpha and beta adrenergic stimulation

Side Effects:

1. Prolonged QT
2. Vasodilation
3. Hypotension

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Aspirin

Protocols:

1. Chest Pain/Acute Coronary Syndrome

Indications:

1. Suspected cardiac chest pain
2. Suspected Myocardial Infarction

Contraindications:

1. Hypersensitivity to aspirin or nonsteroidal anti-inflammatories

Dosing:

1. Adult Only Medication
    a. 324-325 mg chewable tablet PO

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Atropine

Protocols:

1. Bradycardia (Adult and Pediatric)
2. Poisoning
3. Nerve Agents/Organophosphate exposure

Indications:

1. Symptomatic bradycardia with a suspected vagal origin
2. Exposure to organophosphates or other nerve agents

Contraindications:

1. Known hypersensitivity (no absolute contraindications)

Dosing:

1. Symptomatic Bradycardia
    a. Adult:
        i. Administer 0.5 mg IV/IO every 3-5 minutes
        ii. Max dose 3 mg
    b. Pediatric:
        i. Given ONLY if primary AV block, or if bradycardia is unresponsive to oxygenation, ventilation and epinephrine.
        ii. Administer 0.01-0.02 0.02 mg/kg IV/IO
        iii. Minimum single dose 0.1 mg
        iv. Maximum single dose 1 mg
        v. Repeat prn in 5 minutes, maximum total dose 3 mg
2. Organophosphate/Nerve Agent Exposures
    a. Adults
        i. 2-6 mg IV/IM per Mark 1 Kit Dosing Directive (each kit contains 2 mg of atropine)
        ii. If kit is not available administer 2-6 mg IV/IM as needed
    b. Pediatrics
        i. Infant 0.05-0.1 mg/kg IM/IV/IO (0.2-1 mg), Pediatric Atropen or Vial
        ii. Child 1-4 mg IM/IV/IO, Pediatric Atropen, Vial, or Mark 1

Expected Effects:

1. Increased heart rate
2. Dilated pupils

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Calcium Chloride

Protocols:

1. Poisoning/Overdose
2. Crush Injury
3. Cardiac Arrest General – Adult

Indications:

1. Cardiac arrest in the renal failure patient
2. Calcium channel blocker toxicity
3. Crush Injury with suspected hyperkalemia

Precautions:

1. May precipitate digitalis toxicity
2. Extremely important to flush IV line fully after administration

Dosing:

1. Cardiac Arrest
    a. Adult:
        i. 1 gm slow IV
2. Calcium channel blocker toxicity
    a. Adult: 0.5 – 1 gm IV
3. Crush Injury
    a. Adult: 1 gm slow IV over 5 minutes, after extrication

Expected Effects:

1. Increased force of myocardial contraction
2. Rise in arterial pressure

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Dextrose

Protocols:

1. Adult and Pediatric Seizures
2. Adult and Pediatric Altered Mental Status

Indications:

1. Hypoglycemia
2. Altered mental status in the absence of a glucometer

Contraindications:

None

Concentration:

1. Dextrose 10% 25 gm in 250 ml
2. Dextrose 12.5% (for patients up to 2 months of age)
    a. Created by expelling 37.5 ml from Dextrose 50% 50 ml syringe and drawing up 37.5 ml of NS
    b. Creates 6.25 gm/ 50 ml concentration of 12.5%
3. Dextrose 25% (for patients between 2 months and 6 years of age)
    a. Created by expelling 25 ml from Dextrose 50% 50 ml syringe and drawing up 25 ml of NS
    b. Creates 12.5 gm/50 ml concentration of 25%
4. Dextrose 50% (prefilled syringe of 25 gm in 50 ml)

Dosing (ensure patent IV):

1. Pediatric (weight based)
    a. 3-5 kg, Dextrose 12.5%, dose: 2.5g, Volume: 20mL or Dextrose 10%, 25 ml
    b. 6-7 kg, Dextrose 25%, dose: 3.25g, volume 13 mL or Dextrose 10%, 33 ml
    c. 8-9 kg, Dextrose 25%, dose: 4.25g, volume 17 mL or Dextrose 10%, 43 ml
    d. 10-11 kg, Dextrose 25%, dose: 5g, volume 20 mL or Dextrose 10%, 50 ml
    e. 12-14 kg, Dextrose 25%, dose 6.25g, volume 25 mL or Dextrose 10%, 63 ml
    f. 15-18 kg, Dextrose 25%, dose 8 g, volume 32 mL or Dextrose 10%, 80ml
    g. 19-23 kg, Dextrose 25%, dose 10g, volume 40 mL or Dextrose 10%, 100 ml
    h. 24-29 kg, Dextrose 50%, dose 12.5g, volume 25 mL or Dextrose 10%, 125 ml
    i. 30-36 kg, Dextrose 50%, dose 15g, volume 30 mL or Dextrose 10%, 150 ml
2. Adult
    a. Dextrose 50%, 25 gm, 50 ml
    b. Dextrose 10%, 25 gm, 250 ml

Incompatibilities/Drug Interactions:

1. Sodium bicarbonate
2. Diazepam will precipitate if given concurrently without flushing

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Diazepam

Protocols:

1. As indicated in **Medication Substitution Protocol**

Indications:

1. Seizures when first line medications are not available

Precautions:

1. Respiratory depression
2. Hypotension

Dosing:

1. Adult: 5-10 mg IM/IV
2. Pediatric: 0.2 - 0.5 mg/kg IM/IV

Expected Effects:

1. Skeletal muscle relaxation
2. Ceasing of seizure activity

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Diphenhydramine (Benadryl ®)

Protocols:

1. Anaphylaxis/Allergic reaction
2. Poisoning/overdose

Indications:

1. Anaphylaxis
2. Mild or moderate allergic reaction
3. Urticaria

Contraindications:

1. Lower respiratory distress
2. Hypersensitivity to diphenhydramine

Dosing:

1. Adult: 50 mg IM or IV
2. Pediatric: 1-1.5 mg/kg IM or IV

Expected Effects:

1. Antihistamine, decreased urticarial, itching
2. Drowsiness

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Dopamine

Protocols:

1. As indicated in the **Medication Substitution** protocol

Indications:

1. Cardiogenic shock
2. Bradycardia with hypotension

Contraindications:

1. Hemorrhagic shock

Dosing:

1. Adults and Pediatric
    a. Mix 400 mg/250 ml (1600 mcg/ml)
    b. Administer 5 – 20 mcg/kg/min, titrated to effect of BP 90 systolic

Expected Effects:

1. Increased BP
2. Increased HR

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Epinephrine

Protocols:

1. Anaphylaxis/Allergic Reaction
2. Shock
3. Respiratory Distress (Adult)
4. Pediatric Respiratory Distress, Failure, or Arrest
5. Adult Cardiac Arrest – General
6. Adult Bradycardia
7. Pulmonary Edema/CHF
8. Return of Spontaneous Circulation
9. Pediatric Cardiac Arrest - General
10. Pediatric Bradycardia
11. Neonatal Assessment and Resuscitation

Indications:

1. Anaphylaxis
2. Bradycardia
3. Respiratory distress
4. Hypotension
5. Cardiac arrest

Contraindications:

1. No contraindications in critical patients

Dosing:

1. Epinephrine auto-injector (Protocols 1, 3, 4, MFR per MCA selection in protocol 1)
    a. Adults 0.3 mg, IM
    b. Pediatrics
        i. 0.15 mg, IM
        ii. Pediatric auto-injector indicated for patients greater than 10 kg and less than 30 kg
2. Epinephrine 1mg/1mL (Protocols 1, 3, 4)
    a. Adults 0.3 mg IM
    b. Pediatrics
        i. For patients less than 10 kg contact medical control prior to administration
        ii. For patients greater than 10 kg, administer 0.01 mg/kg, up to 0.3 mg
3. Nebulized (Protocol 4)
    a. Racepinephrine 2.25%
        i. Place 0.5 mL in nebulizer
        ii. Dilute with 3 mL normal saline
    b. Epinephrine (1mg/1mL), 5 mL (5 mg) nebulized

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4. Epinephrine 1mg/10mL
    a. IV Bolus (Protocols 5, 9, 10, 11)
        i. Adults 1 mg every 3 to 5 minutes in cardiac arrest
        ii. Pediatrics 0.01 mg/kg (0.1mL/kg)

    b. Push dose (Protocols 2, 6, 8)
        i. Prepare by combining 1 mL of Epinephrine 1 mg/10 mL with 9 mL NS
        ii. Adults
            1. Administer 10-20 mcg (1-2 mL Epinephrine 10 mcg/mL)
            2. Repeat every 3 to 5 minutes
            3. Titrate to SBP greater than 90 mm/Hg
        iii. Pediatrics
            1. Administer 1 mcg/kg (0.1 mL/kg Epinephrine 10 mcg/mL)
            2. Maximum dose 10 mcg (1 mL)
            3. Repeat every 3-5 minutes

Expected Effects:

1. Decreased wheezing
2. Increased BP
3. Increased HR

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Fentanyl

Protocols:

1. Intranasal Medication Administration
2. Pain Management
3. Patient Sedation

Indications:

1. Pain management
2. Patient sedation

Contraindications:

1. Altered Mental Status
2. Hypotension
3. Respiratory Depression
4. Hypersensitivity to Fentanyl

Dosing:

1. Adult
    a. 1 mcg/kg
    b. Single dose up to 100 mcg
    c. May repeat, up to a max dose of 200 mcg
2. Pediatric
    a. 1 mcg/kg
    b. Single dose up to 40 mcg (otherwise dose as adult)
    c. May repeat, total dose up to 80 mcg

Expected Effects:

1. Decreased pain
2. Decreased agitation

Side Effects:

1. Drowsiness
2. Hypotension
3. Respiratory Depression
4. Vomiting

Special Notes:

1. Naloxone will reverse the effect of Fentanyl
2. Administration with Ondansetron for nausea is encouraged

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Glucagon

Protocols:

1. Altered Mental Status (Adult and Pediatric)
2. Seizures (Adult and Pediatric)

Indications:

1. Hypoglycemia with inability to obtain IV access

Contraindications:

1. Adrenal gland tumor
2. Hypersensitivity to glucagon

Dosing:

1. Adult: 1 mg IM/SQ
2. Pediatric: 0.05 mg/kg up to 1 mg IM/SQ

Expected Effects:

1. Increased blood glucose

Side Effects:

1. Nausea
2. Vomiting

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Hydromorphone

Protocols:

1. Pain Management (MCA Selection)

Indications:

1. Severe pain with extended transport time

Contraindications:

1. Hypersensitivity
2. Hypotension
3. Hypovolemia

Dosing:

1. Adults only 0.5 mg IV/IM
2. IV dose must be administered slowly, over 2 minutes
3. May repeat one time

Expected Effects:

1. Decreased pain

Side Effects:

1. Respiratory depression
2. Hypotension
3. Altered mental status

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Cyanokit ® (Hydroxocobalamin)

Protocols:

1. Cyanide Exposure Supplement Protocol

Indications:

1. Known or suspected cyanide poisoning

Contraindications:

1. Hypersensitivity to hydroxocobalamin or cyanocobalamin
2. Can not be administered in the same line as dopamine or fentanyl

Dosing:

1. A two vial kit with 2.5g of hydroxocobalamin each in powder form which must be reconstituted with 100mL of normal saline each, rotated or tipped for 30 seconds each (not shaken) and then administered through its own IV line (not used with any other medications) over 7.5 minutes each.
2. A one vial kit with 5g of hydroxocobalamin powder which must be reconstituted with 200mL of normal saline, be rotated or tipped for 60 seconds (not shaken) and administered through its own IV line (not used with any other medication) over 15 minutes.
3. The starting dose of hydroxocobalamin for adults is 5g (i.e., two 2.5g vials OR one 5g vial) administered as an intravenous (IV) infusion over 15 minutes.
4. Pediatrics:

TWO VIAL KIT (2.5G/100ML)

AGE GROUP	AMOUNT	DOSAGE
INFANT / TODDLER (0-2YEARS)	¼ BOTTLE	0.625G
PRESCHOOL (3-5 YEARS)	½ BOTTLE	1.25G
GRADE SCHOOL (6-13 YEARS)	1 BOTTLE	2.5G
ADULT >14YEARS	2 BOTTLES (ENTIRE KIT)	5G

ONE VIAL KIT (5G / 200ML)

AGE GROUP	AMOUNT	DOSAGE
INFANT / TODDLER (0-2YEARS)	1/8 BOTTLE	0.625G
PRESCHOOL (3-5 YEARS)	¼ BOTTLE	1.25G
GRADE SCHOOL (6-13YEARS)	½ BOTTLE	2.5G
ADULT >14YEARS	1 BOTTLE (ENTIRE KIT)	5G

Expected Effects:

1. Increased blood glucose

Side Effects:

1. Nausea
2. Vomiting
3. Abdominal pain
4. Red colored urine, skin, mucus membranes
5. Rash

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Ibuprofen

Protocols:

1. Pain Management (per MCA selection)

Indications:

1. Mild pain

Contraindications:

1. Hypersensitivity
2. Active bleeding
3. <6 months of age
4. Pregnancy

Dosing:

1. Adults – 10mg/kg PO, maximum dose 800 mg
2. Pediatrics – 10 mg/kg PO, maximum dose 800 mg

Expected effects:

1. Pain Relief

Side effects:

1. Nausea/vomiting
2. Abdominal pain
3. Heartburn

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Ipratropium Bromide (Atrovent ®)

Protocols:

1. Nebulized Bronchodilators

Indications:

1. Bronchial asthma
2. Bronchospasm in emphysema
3. Chronic bronchitis
4. Other wheezing in adults and pediatrics

Contraindications:

1. Hypersensitivity to ipratropium bromide
2. Hypersensitivity to atropine or its derivatives

Dosing:

1. Adult: 500 mcg/3 ml combined with Albuterol 2.5 mg/3ml, nebulized
2. Pediatric: For children aged 5 or under, Ipratropium 250 mcg should be given

Expected Effects:

1. Decreased wheezing
2. Decreased respiratory distress

Side Effects:

1. Palpitations
2. Dry Mouth
3. Anxiety

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Ketamine

Protocols:

1. Excited Delirium
2. Patient Sedation
3. Pain Management
4. Patient Restraint

Indications:

1. Patients with excited delirium
2. Agitation
3. Significant pain

Contraindications:

1. Known hypersensitivity

Dosing:

1. Excited Delirium
    a. Adults only – 4 mg/kg IM
2. Patient Sedation
    a. Adults and Pediatrics
        i. 0.5 mg/kg IN, if available or
        ii. 0.2 mg/kg IV/IO
        iii. Maximum single dose 25 mg
        iv. May repeat after 10-15 minutes to a maximum dose of 2 mg/kg
3. Pain Management
    a. Adults and Pediatrics
        i. 0.5 mg/kg IN, if available or
        ii. 0.2 mg/kg IV/IO
        iii. Maximum single dose 25 mg
        iv. May repeat after 10-15 minutes to a maximum dose of 2 mg/kg
4. Patient Restraint
    a. Adults only – 4 mg/kg IM or IN

Expected Effects:

1. Sedation
2. Decreased agitation
3. Decreased pain

Side Effects:

1. Nausea/vomiting
2. Nystagmus

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Ketoralac (Toradol ®)

Protocols:

1. Pain Management (per MCA selection)

Indications:

1. Mild to moderate pain

Contraindications:

1. Allergies to NSAIDs
2. Active labor or women who are breastfeeding
3. Renal impairment
4. Bleeding or high risk of bleeding
5. Pregnancy

Dosing:

1. Adults – 15 mg IM/IV
2. Pediatrics – 1 mg/kg IM/IV (max dose 15 mg)

Expected effects:

1. Pain Relief

Side effects:

1. Nausea/vomiting
2. Bloating

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Lorazepam (Ativan ®)

Protocols:

1. Adult and Pediatric Seizures
2. Medication Substitution

Indications:

1. Seizures (per MCA selection)
2. Seizures when Midazolam is unavailable

Contraindications:

1. Hypersensitivity to lorazepam
2. Hypotension
3. Respiratory failure

Dosing:

1. Adults: 4 mg IV/IO
2. Pediatrics:
    a. 0.1 mg/kg
    b. Max single dose 4 mg, may repeat to maximum of 8 mg

Expected Effects:

1. Seizure cessation
2. Sedation

Side Effects:

1. Respiratory depression
2. Hypotension
3. Nausea/Vomiting

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Lidocaine

Protocols:

1. Adult Cardiac Arrest – General (MCA Selection)
2. Adult and Pediatric Tachycardia (MCA Selection)
3. Vascular Access & IV Fluid Therapy (IO placement)

Indications:

1. Alternative to amiodarone in cardiac arrest from VF/VT
2. Alternative to amiodarone in pulsatile VT
3. As an anesthetic agent when administering medications via intraosseous route

Contraindications:

1. Hypersensitivity to lidocaine
2. Bradycardia or heart block

Dosing:

1. Cardiac Arrest (Adult) 100 mg IV/IO
2. Wide complex tachycardia
    a. Adults: 1 mg/kg
    b. Pediatric: 1 mg/kg (only with medical direction)
    c. May repeat after 5-10 minutes to a maximum of 3 mg/kg
3. For conscious patients with pain from IO infusion
    a. Adults: 20 mg IO
    b. Pediatrics: 0.5 mg/kg, maximum dose 20 mg

Expected Effects:

1. Increased VF threshold
2. Decreased ventricular irritability
3. Decreased pain with infusion

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Magnesium Sulfate

Protocols:

1. Adult Cardiac Arrest - General
2. Adult Tachycardia
3. Adult Respiratory Distress
4. Adult Seizures

Indications:

1. Suspected Torsades de Pointes
2. VF/VT in hypomagnesemia
3. Seizures secondary to toxemia of pregnancy
4. Asthma exacerbation not responding to first line treatments

Contraindications:

1. Hypersensitivity to magnesium sulfate
2. Should not be given for 2 hours preceding delivery

Dosing:

1. Cardiac Arrest (and Wide Complex Tachycardia)
    a. 2 grams diluted in 10 ml NS
    b. Administerd IVP
2. Asthma exacerbation (refractory)
    a. 2 grams diluted in 10 ml normal saline
    b. Administered over 10 to 20 minutes
    c. Administer with open line of normal saline
3. Seizures in pregnancy
    a. 4 grams diluted in 20 ml
    b. Administered over 10-20 minutes
    c. Administer with open line of normal saline

Expected Effects:

1. Seizure cessation
2. Decreased respiratory distress

Side Effects:

1. Respiratory depression
2. Hypotension
3. Asystole
4. Burning in IV site for conscious patients

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Methylprednisolone

Protocols:

1. Anaphylaxis/Allergic Reaction
2. Adrenal Crisis
3. Adult Respiratory Distress
4. Pediatric Respiratory Distress, Failure, or Arrest

Indications:

1. Allergic reactions
2. Airway inflammation
3. Reactive airway disease
4. Acute adrenal insufficiency

Contraindications:

1. Hypersensitivity to methylprednisolone (or similar)
2. Inability to swallow (by age or patient status)

Dosing:

1. Adult 125 mg IV/IO
2. Pediatrics 2 mg/kg IV/IO (max dose 125mg)

Expected Effects:

1. Decreased inflammation

Side Effects:

1. Dizziness
2. Nausea/vomiting

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Midazolam (Versed ®)

Protocols:

1. Adult and Pediatric Seizures
2. Excited Delirium
3. Heat Emergencies
4. Patient Restraint
5. Patient Sedation
6. Nerve agent/Organophosphate Pesticide Exposure

Indications:

1. Adult or pediatric seizures
2. Sedation for patients receiving electrical therapy
3. Excited delirium or severe agitation to enable assessment and/or treatment

Contraindications:

1. Hypersensitivity to midazolam
2. Shock

Dosing:

1. Seizures
    a. Adults
        i. 10 mg IM
        ii. 5 mg IV/IO
        iii. May repeat with medical direction
    b. Pediatrics
        i. 0.1 mg/kg IM (maximum dose 10 mg)
        ii. 0.05 mg/kg IV/IO (maximum dose 5 mg)
        iii. May repeat with medical direction
2. Excited Delirium and Chemical Restraint (Adults ONLY)
    a. 10 mg IM **or**
    b. 5 mg IN
3. Patient Sedation (and for tremors in heat emergencies)
    a. Adults
        i. 1-5 mg IV/IO/IN (0.05 mg/kg)
        ii. Titrated slowly
        iii. May repeat once in 5 minutes to a maximum of 0.1 mg/kg
    b. Pediatrics
        i. 0.05 mg/kg IV/IO (max single dose 5 mg)
        ii. Titrated slowly
        iii. May repeat once in 5 minutes to a maximum of 0.1 mg/kg

Expected Effects:

1. Seizure cessation
2. Sedation

Side Effects:

1. Respiratory depression
2. Hypotension

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Morphine

Protocols:

1. Pain Management (MCA Selection)
2. Medication Substitution

Indications:

1. Severe pain

Contraindications:

1. Hypersensitivity to morphine
2. Hypotension

Dosing:

1. 0.1 mg/kg
    a. Adults max single dose 10 mg
    b. Pediatrics administer no more than 1 mg in a single dose
2. May repeat
    a. Adults up to 20 mg
    b. Pediatrics up to total dose of 5 mg

Expected Effects:

1. Decreased pain

Side Effects:

1. Respiratory depression
2. Hypotension

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Naloxone (Narcan ®)

Protocols:

1. Adult and Pediatric Altered Mental Status
2. Pediatric Respiratory Distress, Failure, or Arrest
3. Poisoning/Overdose
4. Naloxone Administration

Indications:

1. Known opioid overdose with respiratory depression
2. Respiratory depression or arrest of unknown or suspicious origin

Contraindications:

1. Hypersensitivity to naloxone

Dosing:

1. For MFR and EMT-Basic (Per MCA selection)
    a. 0.4 mg IN
    b. 2.0 mg pre-filled syringe IN
    c. 4.0 mg intranasal spray
2. For Specialist and Paramedic
    a. 0.4 mg IN/IM/IV/IO
    b. Repeat as needed
    c. May need larger doses dependent on substance
3. Pediatrics (Specialist and Paramedics Only)
    a. 0.1 mg/kg IV/IO/IM
    b. Max dose 2 mg

Expected Effects:

1. Decreased pain

Side Effects:

1. Respiratory depression
2. Hypotension

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Nitroglycerin

Protocols:

1. Chest Pain/Acute Coronary Syndrome
2. Nitroglycerin Drip Supplement (Optional)
3. Pulmonary Edema/CHF

Indications:

1. Chest, arm, or neck pain thought to be caused by cardiac ischemia
2. Pulmonary edema
3. Nitroglycerin drip may be used as a supplement to both above indications when sublingual nitroglycerin has not relieved symptoms and the MCA has both adopted the supplement and trained the providers. The provider must use vented IV tubing and an infusion pump.

Contraindications:

1. Use of erectile dysfunction medications within the previous 48 hours

Dosing:

1. MFR and EMT Basic may assist patients with their own sublingual nitroglycerin
2. Sublingual nitroglycerin
    a. 0.4 mg sublingual if BP is above 100 mmHg
    b. May repeat at 3 to 5 minute intervals if pain persists and BP sustains
    c. May be administered prior to IV start if BP is above 120 mmHg
3. Nitroglycerin IV drip (MCA selection)
    a. Begin drip at 10 mcg/min
    b. Increase by 10 mcg/min at 5 minute intervals, titrating to pain and BP
    c. Maximum dose is 200 mcg/min

Expected Effects:

1. Decreased blood pressure
2. Relief of chest pain

Side Effects:

1. Headache
2. Flushing
3. Hypotension

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Ondansetron (Zofran ®)

Protocols:

1. Nausea/Vomiting
2. Pain Management

Indications:

1. Nausea and vomiting
2. Prophylactic use in patients receiving opioids for pain management to prevent nausea/vomiting

Contraindications:

1. Hypersensitivity to ondansetron (or similar)

Dosing:

1. Adult
    a. 4 mg ODT (oral dissolving tablet)
    b. 4 mg IM
    c. 4 mg slow IV (at least 30 seconds, recommended over 2 minutes)
2. Pediatrics
    a. For patients less than 40 kg, 0.1 mg/kg slow IV
    b. For patients greater than 40 kg, 4 mg slow IV
    c. Not routinely give IM in pediatrics, administer over at least 30 seconds, recommended over 2 minutes

Expected Effects:

1. Diminished nausea

Side Effects:

1. Headache
2. Dry mouth
3. Drowsiness

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Prednisone

Protocols:

1. Anaphylaxis/Allergic Reaction
2. Adrenal Crisis
3. Adult Respiratory Distress
4. Pediatric Respiratory Distress, Failure, or Arrest

Indications:

1. Allergic Reaction
2. Inflammatory respiratory issues

Contraindications:

1. Hypersensitivity to steroids
2. Known systemic fungal infections

Dosing:

1. Adult (and children over 6 years old ): 50 mg tablet, PO

Expected Effects:

1. Decreased inflammation

Side Effects:

1. Retention of fluids

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Sodium Bicarbonate (NaHCO3)

Protocols:

1. Excited Delirium
2. Adult and Pediatric Cardiac Arrest – General
3. Poisoning/Overdose
4. Crush Injury

Indications:

1. Cardiac arrest with suspected hyperkalemia
2. Tricyclic antidepressant (TCA)
3. To cause alkalization in significant acidosis

Contraindications:

1. Hypersensitivity to sodium bicarbonate
2. Severe pulmonary edema
3. Known Alkalosis

Dosing:

1. Adults in Excited Delirium: 50 mEq IV
2. Adult and Pediatric Cardiac Arrest: 1 mEq/kg IV/IO
3. TCA overdose with widened QRS
    a. 1-2 mEq/kg IV/IO
    b. May be repeated to narrow QRS and improve blood pressure
4. Crush Injury: 1 mEq/kg IV/IO, max dose 50 mEq

Precautions:

1. Must flush IV line between medications
2. Administer slowly
3. Only given if acidosis is suspected

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Tetracaine Hydrochloride

Protocols:

1. Poisoning/Overdose
2. Chemical Exposure

Indications:

1. Used before/after eye irrigation for pain
2. Chemical exposure to eyes

Contraindications:

1. Hypersensitivity to anesthetics
2. Large area application
3. Infants less than 1 year

Dosing:

1. Adults and Pediatrics great than 1 year odl
    a. 1 to 2 drops per eye
2. May be used before/after flushing eye

Expected Effects:

1. Numbing of eye

Side Effects:

1. Burning
2. Irritation
3. Rash

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Tranexamic Acid (TXA) (Optional)

Protocols:

1. Shock

Indications (TRAUMATIC CAUSE ONLY):

1. Evidence of marked blood loss
2. Sustained tachycardia (>110/Min, despite a 500 ml bolus of IVFs)
3. Initial systolic BP < 90
4. Sustained hypotension (<100 systolic, despite a 500 ml bolus of IVFs)
5. Major trauma with suspicion for pelvic and/or abdominal injury
6. Major arterial bleeding not controlled with tourniquet

Contraindications:

1. Hemorrhagic shock from a non-traumatic cause (massive Gastrointestinal or Gynecological bleeding)

Dosing:

1. Adults
    a. 1 g of TXA mixed in 100 ml of normal saline
    b. Administered over 10 minutes
2. Pediatrics (only appropriate inside a formal research study)
    a. 15 mg/kg TXA
    b. Administered over 10 minutes

Precautions:

1. Must be administered within 3 hours of injury
2. Do not delay transport for administration of TXA
3. TXA delivered in the field is a loading dose
    a. It is not effective if a second dose is not given at the appropriate time in the hospital
    b. It is very important that the administering provider make note of the time that the loading dose is given

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APPENDIX F

Defendant's Supplemental Brief

Docket No. 159205

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Protocol Release 2017

Thank you to everyone for your patience as you awaited the release of these protocols. A lot of time, research, and thought went into these and hopefully you will find them as user friendly and appropriate as we do.

As you look through them, use this key as a guide. When you come across an icon, everything below it is for that licensure until you come to a different icon or go out a level in the outline. For example, if 2 A is for specialists, 3 would go back to the level of the previous icon. If 3 is for paramedic, 4, 5, etc. would also be for paramedic unless you come across another icon. If you are confused, feel free to contact me and we can go through them together. bergquiste@michigan.gov

 EMT-Basic

 EMT-Specialist

 Paramedic

 Pediatric

 Medical Control

If there is no icon, then it is for all levels of licensure unless otherwise designated.

We look forward to seeing everyone's responses. Let us know if you have issues or questions!

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APPENDIX G

Defendant's Supplemental Brief

Docket No. 159205

National Emergency Medical Services Education Standards

Emergency Medical Technician Instructional Guidelines

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Preparatory
EMS Systems

EMT Education Standard

Applies fundamental knowledge of the EMS system, safety/well-being of the EMT, and medical/legal and ethical issues to the provision of emergency care.

EMT-Level Instructional Guideline

The EMT Instructional Guidelines in this section include all the topics and material at the EMR level PLUS the following material:

I. The Emergency Medical Services System
- A. History
  - 1. 1960s
  - 2. Evolution to current EMS systems
- B. NHTSA Technical Assistance Program Assessment Standards
  - 1. Regulation and policy
  - 2. Resource management
  - 3. Human resources and training
  - 4. Transportation
  - 5. Facilities
- C. Access to Emergency Medical Services
- D. Education
  - 1. Levels of EMS licensure
  - 2. National EMS Education Agenda for the Future: A Systems Approach
- E. Authorization to Practice
  - 1. Legislative decisions on scope of practice
  - 2. State EMS office oversight
  - 3. Medical oversight
    - a. Clinical protocols
      - i. Offline
      - ii. Online
      - iii. Standing orders
    - b. Quality improvement
    - c. Administrative
  - 4. Local credentialing
  - 5. Administrative
  - 6. Employer policies and procedures

II. Roles, Responsibilities, and Professionalism of EMS Personnel
- A. Roles and Responsibilities
  - 1. Maintain vehicle and equipment readiness

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2. Safety
    a. Personal
    b. Patient
    c. Others on the scene
3. Operate emergency vehicles
4. Provide scene leadership
5. Perform patient assessment
6. Administer emergency medical care to a variety of patients with varied medical conditions
7. Provide emotional support
    a. Patient
    b. Patient's family
    c. Other responders
8. Integration with other professionals and continuity of care
    a. Medical personnel
    b. Law enforcement
    c. Emergency management
    d. Home healthcare providers
    e. Other responders
9. Resolve emergency incident
10. Maintain medical and legal standards
11. Provide administrative support
12. Enhance professional development
13. Develop and maintain community relations

B. Professionalism
1. Characteristics of professional behavior
    a. Integrity
    b. Empathy
    c. Self-motivation
    d. Appearance and hygiene
    e. Self-confidence
    f. Time management
    g. Communication
        i. verbal
        ii. written
    h. Teamwork and diplomacy
    i. Respect for patients, co-workers and other healthcare professionals
    j. Patient advocacy
    k. Careful delivery of service
2. Maintenance of certification and licensure
    a. Personal responsibility
    b. Continuing education
    c. Skill competency verification
    d. Criminal implications
    e. Fees

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III. Quality Improvement
- A. System for Continually Evaluating and Improving Care
- B. Continuous Quality Improvement (CQI)
- C. Dynamic Process

IV. Patient Safety
- A. Significant – One of the Most Urgent Health Care Challenges
- B. High-Risk Activities
  1. Hand-off
  2. Communication issues
  3. Dropping patients
  4. Ambulance crashes
  5. Spinal immobilization
- C. How Errors Happen
  1. Skills-based failure
  2. Rules-based failure
  3. Knowledge-based failure
- D. Preventing Errors
  1. Environmental
     a. Clear protocols
     b. Light
     c. Minimal interruptions
     d. Organization and packaging of drugs
  2. Individual
     a. Reflection in action
     b. Constantly question assumptions
     c. Reflection bias
     d. Use decision aids
     e. Ask for help

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Pharmacology

Principles of Pharmacology

EMT Education Standard

Applies fundamental knowledge of the medications that the EMT may assist/administer to a patient during an emergency.

EMT-Level Instructional Guideline

The EMT Instructional Guidelines in this section include all the topics and material at the EMR level PLUS the following material:

I. Medication safety

II. Kinds of Medications Used in an Emergency
- A. Forms of Medication
  - 1. Solid
    - a. Pills
    - b. Tablets – compressed powders
    - c. Powder – inhalation
  - 2. Liquids
    - a. Enteral (ingested)
    - b. Parenteral (injected)
  - 3. Gases; aerosols – inhalation
- B. Routes of Medication Administration
  - 1. Enteral (ingested)
    - a. Sublingual (e.g., nitroglycerin)
    - b. Oral (e.g., glucose)
  - 2. Parenteral (injected and inhaled)
    - a. Inhaled (e.g., oxygen)
    - b. Injection (e.g., epinephrine)
    - c. Methods of injection
      - i. subcutaneous
      - ii. intramuscular
      - iii. intravenous

III. Basic Medication Terminology
- A. Drug Name
  - 1. Generic
  - 2. Trade

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B. Drug Profile
   1. Actions
      a. Pharmacodynamics – impact of age and weight upon medication administration
      b. Indication
      c. Intended effects
   2. Contraindications
   3. Side effects
      a. Unintended effects
      b. Untoward effects
   4. Dose
   5. Route
C. Prescribing Information

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Pharmacology
Medication Administration

EMT Education Standard

Applies fundamental knowledge of the medications that the EMT may assist/administer to a patient during an emergency.

EMT-Level Instructional Guideline

The EMT Instructional Guidelines in this section include all the topics and material at the EMR level PLUS the following material:

I. Assist/Administer Medications to a Patient
- A. Administration versus Assistance of Medications
  - 1. Assisting patients in taking prescribed medications
  - 2. Administering medication
  - 3. Medical Direction
    - a. Off-line; standing orders, written protocols
    - b. On-line; verbal order
      - a) Confirmation – echo technique
      - b) Confusion – clarification
- B. Medication Administration Procedure
  - 1. The "rights" of drug administration
    - a. Right patient – prescribed to patient
    - b. Right medication – patient condition
    - c. Right route – patient condition
    - d. Right dose – prescribed to patient
    - e. Right time – within expiration date
- C. Techniques of Medication Administration
  - 1. Oral
    - a. Advantages
    - b. Disadvantages
    - c. Techniques
  - 2. Sublingual
    - a. Advantages
    - b. Disadvantages
    - c. Techniques
  - 3. Intramuscular injection by Auto injector
    - a. Advantages
    - b. Disadvantages
    - c. Techniques

4. Inhalation
    a. Advantages
    b. Disadvantages
    c. Techniques

D. Reassessment
    1. Data – indications for medication
    2. Action – medication administered
    3. Response – effect of medication

E. Documentation

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Pharmacology
Emergency Medications

EMT Education Standard

Applies fundamental knowledge of the medications that the EMT may assist/administer to a patient during an emergency.

EMT-Level Instructional Guideline

The EMT Instructional Guidelines in this section include all the topics and material at the EMR level PLUS the following material:

The EMT must know the names, mechanism of action, indications, contraindications, complications, routes of administration, side effects, interactions, dose, and any specific administration considerations, for all of the following emergency medications. Individual training programs have the authority to add any medication used locally by EMTs.

I. Specific Medications
   - A. EMT – Administer Medications
     1. Aspirin
     2. Oral glucose
     3. Oxygen
   - B. EMT – Assisted Medications
     1. Inhaled bronchodilators
     2. Epinephrine
     3. Nitroglycerin

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EMS Operations

Principles of Safely Operating a Ground Ambulance

EMT Education Standard

Knowledge of operational roles and responsibilities to ensure patient, public, and personnel safety.

EMT-Level Instructional Guideline

The intent of this section is to give an overview of emergency response to ensure EMS personnel, patient, and other's safety during EMS operations. This does not prepare the entry-level student to be an experienced and competent driver.

Information related to the clinical management of the patient during emergency response is found in the clinical sections of the National EMS Education Standards and Instructional Guidelines for each personnel level.

The EMT Instructional Guidelines in this section include all the topics and material at the EMR level PLUS the following material:

I. Risks and Responsibilities of Emergency Response
  A. Safety Issues During Transport
    1. All personnel and others riding in or on apparatus are properly seated and secured with safety belts.
    2. All patients are properly secured and all stretcher straps are appropriately in place and tightened.
    3. All equipment is appropriately secured
      a. Cab areas
      b. Rear of ambulances
      c. Compartments
    4. Consideration of use of lights and sirens
      a. Risk/benefit analysis
        i. status of patient interventions
        ii. patient condition
      b. Audible warning devices
        i. asking for right of way of others
        ii. not to be used to clear traffic
    5. Transport with due regard
    6. High-risk situations
      a. Intersections
      b. Highway access
      c. Speeding

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d. Driver Distractions
    i. mobile computer
    ii. global Positioning Systems
    iii. using mobile radio
    iv. operating visual and audible devices
    v. vehicle stereo
    vi. wireless devices
    vii. eating/drinking
e. Inclement weather
f. Aggressive drivers
g. Unpaved roadways (see Federal Highway Administration definition)
h. Driving alone
i. Fatigue

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EMS Operations

Incident Management

EMT Education Standard

Knowledge of operational roles and responsibilities to ensure patient, public, and personnel safety.

EMT-Level Instructional Guideline

Information related to the clinical management of the patient within components of the Incident Management System (IMS) is found in the clinical sections of the National EMS Education Standards and Instructional Guidelines for each personnel level.

I. Establish and Work Within the Incident Management System
   - A. Entry-Level Students Need to Be Certified in
     1. ICS-100: Introduction to ICS, or equivalent
     2. FEMA IS-700: NIMS, An Introduction
   - B. This Can Be Done as a Co requisite or Prerequisite or as Part of the Entry-Level Course

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EMS Operations
Multiple Casualty Incidents

EMT Education Standard

Knowledge of operational roles and responsibilities to ensure patient, public, and personnel safety.

EMT-Level Instructional Guideline

The intent of this section is to give an overview of operating during a multiple casualty incident when a multiple casualty incident plan is activated.

Information related to the clinical management of the patients during a multiple casualty incident is found in the clinical sections of the National EMS Education Standards and Instructional Guidelines for each personnel level.

The EMT Instructional Guidelines in this section include all the topics and material at the EMR level PLUS the following material:

I. Multiple Casualty Incidents (MCI) -- An Event That Places a Great Demand on Resources, Be It Equipment or Personnel

II. Triage
- A. Performing
  - 1. Primary versus secondary
    - a. Primary triage used on scene to rapidly categorize patient's condition
      - i. document location of patient and transport needs
      - ii. triage tape or labels used
      - iii. focus on speed to sort patients quickly
    - b. Secondary triage used at treatment area
      - i. re-triage of patients
      - ii. paper tags usually used
      - iii. not always necessary
  - 2. Techniques of Triage
    - a. Center for Disease Control (CDC) Guidelines
    - b. START
    - c. Other
- B. Re-Triage
- C. Destination Decisions
  - 1. Patient distribution
  - 2. Hospital surge capacity

3. Specialty patient needs (burn, pediatric, etc.)
4. Ongoing coordination and communication

D. Post-Traumatic and Cumulative Stress
1. Should be part of post-incident SOP
2. Access to defusing during the MCI
3. Roles of debriefing for an MCI
1. Access to debriefing

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EMS Operations
Air Medical

EMT Education Standard

Knowledge of operational roles and responsibilities to ensure patient, public, and personnel safety.

EMT-Level Instructional Guideline

The intent of this section is to give an overview of operating safely in and around a landing zone during air medical operations and transport.

Information related to the clinical management of the patients during air medical operations is found in the clinical sections of the National EMS Education Standards and Instructional Guidelines for each personnel level.

I. Safe Air Medical Operations
- A. Types
  - 1. Rotorcraft
  - 2. Fixed wing
- B. Advantages
  - 1. Specialized care – skills, supplies, equipment
  - 2. Rapid transport
  - 3. Access to remote areas
  - 4. Helicopter hospital helipads
- C. Disadvantages
  - 1. Weather/environmental
  - 2. Altitude limitations
  - 3. Airspeed limitations
  - 4. Aircraft cabin size
  - 5. Terrain
  - 6. Cost
- D. Patient Transfer
  - 1. Interacting with flight personnel
  - 2. Patient preparation
  - 3. Scene safety
    - a. Securing loose objects
    - b. Approaching the aircraft
    - c. Landing zone
- E. Landing Zone Selection and Preparation
- F. Approaching the Aircraft
- G. Communication Issues

II. Criteria for Utilizing Air Medical Response
  A. Indications for Patient Transport
    1. Medical
    2. Trauma
    3. Search and rescue
  B. Activation
    1. Local guidelines
    2. State guidelines
      a. State statutes
      b. Administrative rules
      c. City/county/district ordinance standards

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EMS Operations
Vehicle Extrication

EMT Education Standard

Knowledge of operational roles and responsibilities to ensure patient, public, and personnel safety.

EMT-Level Instructional Guideline

The intent of this section is to give an overview of vehicle extrication to ensure EMS personnel and patient safety during extrication operations. This does not prepare the entry-level student to become a vehicle extrication expert or technician.

Information related to the clinical management of the patient being cared for during vehicle extrication is found in the clinical sections of the National EMS Education Standards and Instructional Guidelines for each personnel level.

I. Safe Vehicle Extrication
- A. Role of EMS in Vehicle Extrication
  1. Provide patient care
  2. Perform simple extrication
- B. Personal Safety
  1. First priority for all EMS personnel
  2. Appropriate personal protective equipment for conditions
  3. Scene size-up
- C. Patient Safety
  1. Keep them informed of your actions
  2. Protect from further harm
- D. Situational Safety
  1. Control traffic flow
     a. Proper positioning of emergency vehicles
        i. upwind/uphill
        ii. protect scene
     b. Use of lights and other warning devices
     c. Setting up protective barrier
     d. Designate a traffic control person
  2. 360-degree assessment
     a. Downed electrical lines
     b. Leaking fuels or fluids
     c. Smoke or fire
     d. Broken glass
     e. Trapped or ejected patients
     f. Mechanism of injury

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3. Vehicle stabilization
    a. Put vehicle in “park” or in gear
    b. Set parking brake
    c. Turn off vehicle ignition
    d. Cribbing/Chocking
    e. Move seats back and roll down windows
    f. Disconnect battery or power source
    g. Identify and avoid hazardous vehicle safety components
        i. seat belt pretensioners
        ii. undeployed air bags
        iii. other
4. Unique hazards
    a. Alternative-fuel vehicles
    b. Undeployed vehicle safety devices
    c. HAZMAT
5. Evaluate the need for additional resources
    a. Extrication equipment
    b. Fire suppression
    c. Law enforcement
    d. HAZMAT
    e. Utility companies
    f. Air medical
    g. Others
6. Extrication considerations
    a. Disentanglement of vehicle from patient
    b. Multi-step process
    c. Rescuer-intensive
    d. Equipment-intensive
    e. Time-intensive
    f. Access to patient
        i. simple
            a) try to open doors
            b) ask patient to unlock doors
            c) ask patient to lower windows
        ii. complex
        iii. tools
            a) hand
            b) pneumatic
            c) hydraulic
            d) other

E. Determine Number of Patients (implement local multiple casualty incident protocols if necessary)

II. Use of Simple Hand Tools
A. Hammer
B. Center Punch
C. Pry Bar

D. Hack Saw
E. Come-Along

III. Special Considerations for Patient Care
A. Removing Patient
1. Maintain manual cervical spine stabilization
2. Complete primary assessment
3. Provide critical interventions
B. Assist With Rapid Extrication
C. Move Patient, Not Device
D. Use Sufficient Personnel
E. Use Path of Least Resistance

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EMS Operations

Hazardous Materials Awareness

EMT Education Standard

Knowledge of operational roles and responsibilities to ensure patient, public, and personnel safety.

EMT-Level Instructional Guideline

Information related to the clinical management of the patient exposed to hazardous materials is found in the clinical sections of the National EMS Education Standards and Instructional Guidelines for each personnel level.

I. Risks and Responsibilities of Operating in a Cold Zone at a Hazardous Material or Other Special Incident
   - A. Entry-Level Students Need to Be Certified in: Hazardous Waste Operations and Emergency Response (HAZWOPER) standard, 29 CFR 1910.120 (q)(6)(i) -First Responder Awareness Level
   - B. This Can Be Done as a Co requisite or Prerequisite or as Part of the Entry-Level Course

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EMS Operations

Mass Casualty Incidents Due to Terrorism and Disaster

EMT Education Standard

Knowledge of operational roles and responsibilities to ensure patient, public, and personnel safety.

EMT-Level Instructional Guideline

The intent of this section is to give an overview of operating during a terrorist event or during a natural or manmade disaster.

Information related to the clinical management of patients exposed to a terrorist event is found in the clinical sections of the National EMS Education Standards and Instructional Guidelines for each personnel level.

I. Risks and Responsibilities of Operating on the Scene of a Natural or Man-Made Disaster
- A. Role of EMS
  1. Personal safety
  2. Provide patient care
  3. Initiate/operate in an incident command system (ICS)
  4. Assist with operations
- B. Safety
  1. Personal
     - a. First priority for all EMS personnel
     - b. Appropriate personnel protective equipment for conditions
     - c. Scene size-up
     - d. Time, distance, and shielding for self-protection
     - e. Emergency responders are targets
     - f. Dangers of the secondary attack
  2. Patient
     - a. Keep them informed of your actions
     - b. Protect from further harm
     - c. Signs and symptoms of biological, nuclear, incendiary, chemical and explosive (B-NICE) substances
     - d. Concept of “greater good” as it relates to any delay
     - e. Treating terrorists/criminals

3. 360-degree assessment and scene size-up
    a. Outward signs and characteristics of terrorist incidents
    b. Outward signs of a weapons of mass destruction (WMD) incident
    c. Outward signs and protective actions of biological, nuclear, incendiary, chemical, and explosive (B-NICE) weapons
4. Determine number of patients (implement local multiple-casualty incident (MCI) protocols as necessary)
5. Evaluate need for additional resources
6. EMS operations during terrorist, weapons of mass destruction, disaster events
    a. All hazards safety approach
    b. Initially distance from scene and approach when safe
    c. Ongoing scene assessment for potential secondary events
    d. Communicate with law enforcement at the scene of an armed attack
    e. Initiate or expand incident command system as needed
    f. Perimeter use to protect rescuers and public from injury
    g. Escape plan and a mobilization point at a terrorist incident
7. Care of emergency responders on scene
    a. Safe use of an auto injector for self and peers
    b. Safe disposal of auto injector devices after activation

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DOT HS 811 077C
January 2009

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U.S. Department of Transportation
National Highway Traffic Safety Administration

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APPENDIX H

Defendant’s Supplemental Brief

Docket No. 159205

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National Emergency Medical Services Education Standards

Paramedic Instructional Guidelines

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Preparatory
EMS Systems

Paramedic Education Standard

Integrates comprehensive knowledge of EMS systems, safety/well being of the paramedic, and medical/legal and ethical issues, which is intended to improve the health of EMS personnel, patients, and the community.

Paramedic-Level Instructional Guideline

The Paramedic Instructional Guidelines in this section include all the topics and material at the AEMT level PLUS the following material:

I. History of EMS
- A. EMS Prior to World War I
  1. 1485 – Siege of Malaga, first recorded use of ambulance by military, no medical care provided
  2. 1800s – Napoleon designated vehicle and attendant to head to battle field
     - a. 1860 – first recorded use of medic and ambulance use in the United States
     - b. 1865 – first civilian ambulance, Commercial Hospital of Cincinnati, Ohio
     - c. 1869 – First ambulance service, Bellevue Hospital in New York, NY
     - d. 1899 – Michael Reese Hospital in Chicago operates automobile ambulance
- B. EMS Between World War I and II
  1. 1900s – Hospitals place interns on ambulances, first real attempt at quality scene and transport care
  2. 1926 – Phoenix Fire Department enters EMS
  3. 1928 – First rescue squad launched in Roanoke, VA. Squad implemented by Julien Stanley Wise and named Roanoke Life Saving Crew
  4. 1940s
     - a. Many hospital-based ambulance services shut down due to lack of manpower resulting from WWI
     - b. City governments turn service over to police and fire departments
     - c. No laws on minimum training
     - d. Ambulance attendance became a form of punishment in many fire depts.
- C. Post-World War II
  1. 1950s
     - a. 1951 – Helicopters used during Korean War

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b. 1956 – Mouth-to-mouth resuscitation developed by Dr. Elan and Dr. Safar
c. 1959 – First portable defibrillator developed at Johns Hopkins Hospital

2. 1960s
   a. 1960 – LAFD puts medical personnel on every engine, ladder, and rescue company
   b. 1965 – "Accidental Death & Disability: The Neglected Disease of Modern Society " or The White Paper
      i. Lack of uniform laws and standards
      ii. Ambulances and equipment of poor quality
      iii. Communication lacking between EMS and hospital
      iv. Training of personnel lacking
      v. Hospitals used part time staff in ED
      vi. More people died in auto accidents than in Vietnam War
   c. 1966
      i. EMS Guidelines – Highway Safety Act, Standard 11
      ii. Delivery of pre-hospital care using ambulances by Dr. Frank Pantridge in Belfast, Ireland
   d. 1967 -- AAOS creates "Emergency Care and Transportation of the Sick and Injured." First textbook for EMS personnel
   e. 1968
      i. Task Force of the Committee of EMS drafts basic training standards, results in "Training of Ambulance Personnel and Others Responsible for Emergency Care of the Sick and Injured at the Scene and During Transport" by Dunlop and Associates.
      ii. American Telephone and Telegraph reserves 9-1-1 for emergency use
   f. 1969
      i. Dr. Eugene Nagel launches Nation's first Paramedic program in Miami.
      ii. The Committee on Ambulance Design Criteria published "Medical Requirements for Ambulance Design and Equipment."

3. 1970s
   a. 1970
      i. Use of Helicopters in EMS explored
      ii. National Registry of Emergency Medical Technicians established
   b. 1971 -- The Committee on Injuries of the AAOS hosts national workshop on training for EMTs
   c. 1972
      i. Department of Health, Education and Welfare directed by President Nixon to develop new ways to organize EMS

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ii. Departments of Defense and Transportation form helicopter evacuation service
iii. TV show "Emergency!" begins 8-year run

d. 1973
i. EMS Systems Act of 1973 passed
ii. Star of Life developed by DOT
iii. St. Anthony's Hospital in Denver starts Nation's first civilian aeromedical transport service

e. 1974-1979
i. 1974
a) Department of Health, Education and Welfare published guidelines for developing and implementing EMS Systems
b) Federal report discloses that less than half of ambulance personnel completed DOT 81-hour course
ii. 1975
a) American Medical Association recognizes Emergency Medicine as specialty
b) University of Pittsburgh and Nancy Caroline, M.D. awarded contract for first EMT-Paramedic National Standard Curriculum
c) National Association of EMTs is formed

f. 1980s
i. 1983 - The EMS for Children Act passed
ii. 1985 – National Association of EMS Physicians formed

g. 1990s
i. 1990 – The Trauma Care System Planning and Development Act is passed
ii. 1991 – The Commission on Accreditation of Ambulance Services sets standards and benchmarks for ambulances services

II. EMS Systems
A. Components of the EMS System
1. Manpower --levels of EMS licensure
2. Education/training
a. National EMS Education Agenda for the Future: A Systems Approach
i. National EMS Scope of Practice Model
ii. National EMS Education Standards
iii. National EMS Education Program Accreditation
iv. National EMS Certification
3. Communications
4. Transportation
5. Facilities

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6. Critical care units
7. Use of public safety agencies
8. Consumer participation
9. Accessibility of Care
10. Transfer of patients
    a. Integration with other professionals and continuity of care
        i. Medical personnel
        ii. Law enforcement
        iii. Emergency management
        iv. Home healthcare providers
        v. Other responders
11. Standardized medical record-keeping
12. Patients information and education
    a. Patient education
        i. Pre-incident
        ii. Post-incident
    b. Public education
        i. Role modeling
        ii. Community involvement
        iii. Leader activities
        iv. Community activities
        v. Prevention activities
13. Independent review and evaluation
14. Disaster linkage
15. Mutual aid agreements

B. Chain of survival
1. Bystander care
2. Dispatch
3. Response
4. Prehospital care
5. Transportation
6. Emergency department care
7. Definitive care
8. Rehabilitation

C. Service Types
1. Fire-based
2. Third service
3. Private (for profit and nonprofit)
4. Hospital-based
5. Hybrid/other

D. Trauma Systems

E. Medical Direction
1. Role of the EMS physician in providing medical direction
    a. Education and training of personnel
    b. Participation in personnel selection process
    c. Participation in equipment selection

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d. Development of clinical protocols
e. Participate in quality improvement and problem resolution
f. Provides direct input into patient care
g. Interface between EMS providers and other health care agencies
h. Advocacy within the medical community
i. Serve as the "medical conscience" of the EMS system (Advocate for quality patient care)

2. Types of medical direction
   a. On-line/direct
   b. Off-line/indirect
3. Benefits of medical direction
   a. On-line
   b. Off-line
      i. Prospective
      ii. Retrospective

III. Roles/Responsibilities/Professionalism of EMS Personnel
A. Roles and Responsibilities
B. Leadership/Affective Characteristics
1. Attributes of professional
   a. Integrity
   b. Empathy
   c. Self–motivation
   d. Appearance and personal hygiene
2. Confidence in skills and ability
3. Communication
   a. Verbal
   b. Written
4. Time management
5. Teamwork and diplomacy
6. Respect for patients, coworkers and other health care professionals
7. Patient advocacy
8. Careful delivery of service

C. Administration
1. Record keeping and reporting
2. Special project coordination and implementation
3. Station duties
4. Interagency relationships/partnerships

D. Credentialing
1. Licensure
2. Certification
3. National registration
4. Reciprocity
   a. Maintenance of certification and licensure
      i. Personal responsibility
      ii. Continuing education

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iii. Skill competency verification
iv. Criminal implications
v. Fees

E. Less Traditional Roles
1. Expanded scope of practice
2. Paramedics in Other Settings
a. Emergency departments
b. Clinics
c. Health departments
d. Physicians office
e. Interfacility transport
f. Critical care transport
g. Neonatal transport
h. High-risk obstetric transport

F. Operational Responsibilities
1. Preparation
2. Response
3. Scene assessment
4. Patient assessment
5. Management
a. Following protocols
b. Interacting with medical direction physician, as needed
6. Appropriate disposition
a. Disposition issues
i. ED transport
ii. Alternative destinations
iii. Ground
iv. Air
v. Selection of the proper receiving facility
vi. Requires knowledge of the receiving facilities
vii. Hospital designation/categorization
viii. Based on hospital resource capabilities
ix. Clinical capabilities and specialty availability
x. Transfer agreements
xi. Payers and insurance systems
b. Non-Transport
i. Against medical advice
ii. No assistance needed
iii. Transfer to other EMS
iv. Medical examiner investigations
7. Transfer of care
8. Documentation
9. Returning to service

G. Education
1. Education principles & practices
a. National EMS Scope of Practice Model
b. National EMS Education Standards

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2. Paramedic education/accreditation
    a. National EMS Program Accreditation
    b. State accreditation
3. Patient education
    a. Pre-incident
    b. Post-incident
4. Public education
    a. Role modeling
    b. Community involvement
    c. Leader activities
    d. Community activities
    e. Prevention activities
5. Episodic/non-acute care activities
    a. Patient home assistance
    b. Social assistance
    c. Home health care assistance

H. Professionalism
1. Profession
2. Specialized body of knowledge or expertise
    a. Self-regulating
    b. Maintains standards
3. Professionals
    a. Education
    b. Follow standards of conduct and performance
    c. Adhere to code of ethics
4. Health care professional
    a. Conforms to the standards of health care professions
    b. Provides quality patient care
    c. Instills pride in the profession
    d. Strives for high standards
    e. Earns respect of others
    f. High societal expectations while on and off duty
    g. EMS personnel occupy positions of public trust
    h. Unprofessional conduct
    i. Commitment to excellence
    j. Image and behavior
        a. Paramedics represent a variety of people
            i. Self
            ii. EMS agency
            iii. State/county/ district EMS offices
            iv. Peers

I. Affective characteristics
1. Integrity
2. Empathy
3. Self-motivation
4. Appearance and hygiene

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5. Self-confidence
6. Time management
7. Communication
    a. Verbal
    b. Written
8. Teamwork and diplomacy
9. Respect for patients, coworkers and other healthcare professionals
10. Patient advocacy
11. Careful delivery of service

IV. Quality Improvement
- A. System for continually evaluating and improving care
- B. Continuous quality improvement (CQI)
- C. Dynamic process

V. Patient Safety
- A. Significant-one of the most urgent health care challenges
- B. Incidence-IoM report "To Err is Human" up to 98,000 patients die due to medical errors
- C. High risk activities
    1. Hand off
    2. Communication issues
    3. medication issues
    4. airway issues
    5. dropping patients
    6. ambulance crashes
    7. spinal immobilization
- D. How errors happen
    1. skills-based failure
    2. rules-based failure
    3. knowledge-based failure
- E. Preventing Errors
    1. Environmental
        a. Clear protocols
        b. Light
        c. Minimal interruptions
        d. Organization and packaging of drugs
    2. Individual
        a. Reflection in action
        b. Constantly question assumptions
        c. Reflection bias
        d. Use decision aids
        e. Ask for help

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Pharmacology

Principles of Pharmacology

Paramedic Education Standard

Integrates comprehensive knowledge of pharmacology to formulate a treatment plan intended to mitigate emergencies and improve the overall health of the patient.

Paramedic-Level Instructional Guideline

The Paramedic Instructional Guidelines in this section include all the topics and material at the AEMT level PLUS the following material:

I. Medication Safety

II. Medication Legislation
- A. Pure Food and Drug Act
- B. Federal Food, Drug and Cosmetic Act
- C. Harrison Narcotic Act
- D. Controlled Substances Act
  1. Schedule I
  2. Schedule II
  3. Schedule III
  4. Schedule IV
  5. Schedule V
- E. Drug Enforcement Agency
- F. Development of Pharmaceuticals
  1. Food and Drug Administration approval process
  2. Special Considerations
     - a. Pregnancy
     - b. Pediatrics
     - c. Geriatrics

III. Naming
- A. Chemical
- B. Generic
- C. Propriety/Trade
- D. Official
- E. Authoritative sources of drug information
  1. United States Pharmacopeia (USP)
  2. Physician's Desk Reference (PDR)
  3. Drug Package Inserts
  4. Drug Handbooks

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5. AMA Drug Evaluation
6. Hospital Formulary (HF)

IV. Classifications
- A. Body System
- B. Class of Agent
- C. Mechanism of Action
  1. Alkalinizing Agents
  2. Analgesics
  3. Antibiotics
  4. Anticonvulsant – Sedative
  5. Antihypertensives
  6. Beta – Agonists
  7. Beta-blockers
  8. Calcium Channel Blockers
  9. Corticosteriods
  10. Diuretics
  11. Dysrrhythmics
  12. Fibrinolytics
  13. Neuromuscular Blocking Agents
  14. Platelet Inhibitors
  15. Sympathomimetics
  16. Xanthines
- D. Classifications by Body System
  1. Central Nervous System
     - a. Autonomic Pharmacology
       - i. cholinergics
       - ii. anticholinergics
       - iii. adrenergics
       - iv. antiadrenergic
     - b. Analgesics
     - c. Anesthetics
     - d. Paralytics
     - e. Sedative/Hypnotic
     - f. Anticonvulsants
     - g. Stimulants
  2. Cardiovascular drugs
     - a. Anti-dysrhythmia
     - b. Cardiac Glycosides
     - c. Antihypertensives
     - d. Antianginal Drugs
     - e. Antihyperlipidemia Drugs
     - f. Antihistamine
  3. Drugs affecting the Blood
     - a. Anticoagulants
     - b. Fibrinolytics

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c. Antihemophilic Agents
d. Platelet Inhibitors
e. Glycoprotein IIB/IIIA Receptor Blockers
f. Hemostatic Agents
g. Antihyperlipidemic Agents

4. Psychiatric Medications
   a. Neuroleptics
   b. Antidepressants
   c. Antimanic Drugs
5. Respiratory System
   a. Mucolytics
   b. Cholinergic Antagonists
   c. Sympathomimetics
   d. Xanthine Derivatives
   e. Cough Suppressants
   f. Nasal Decongestants
   g. Antihistamines
6. Endocrine System
   a. Drugs affecting the Pituitary Gland
      i. anterior pituitary hormones
      ii. posterior pituitary hormones
   b. Drugs affecting the Thyroid Gland
   c. Drugs affecting the Adrenal Cortex
      i. glucocorticoids
      ii. mineralcorticoids
      iii. adrenal steroid inhibitors
   d. Drugs affecting the Pancreas
      i. insulin preparations
      ii. oral hypoglycemic agents
      iii. hyperglycemic agents
7. Infectious Disease
   a. Anthelmintic Agents
   b. Antiparasitic Agents
   c. Antifungal Agents
   d. Antibiotics
   e. Antiviral
8. Immune System
   a. Immunosuppressants
   b. Immunomodulators
9. Gastrointestinal System
   a. Antacid
   b. Antiflatulents
   c. Digestants
   d. Antiemetics
   e. Emetic Agents
   f. H2 Receptor Antagonists

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- g. Laxatives
- h. Antidiarrheals
- i. Cholesterol Synthesis

10. Urinary System
    - a. Diuretic Drugs
11. Reproductive System
    - a. Contraceptives
    - b. Replacement Hormone Therapies
    - c. Erectile Dysfunction
    - d. Oxytocics
    - e. Premature Labor Inhibitors
12. Ophthalmic Drugs
    - a. Antiglaucoma Agents
    - b. Mydriatric Agents
    - c. Antiinfective Agents
    - d. Topical Anesthetic Agents
13. Neoplastic Diseases
    - a. Alkylating Agents
    - b. Antimetabolites
    - c. Plant Alkaloids
    - d. Antitumor antibiotic
14. Herbal Preparations
15. Over the Counter Medications

V. Schedules
- A. Controlled Substances Act
  1. Schedule I
  2. Schedule II
  3. Schedule III
  4. Schedule IV
  5. Schedule V

VI. Drug Storage and Security
- A. Factors affecting Drug Potency
  1. Temperature
  2. Light
  3. Moisture
  4. Shelf Life
- B. Controlled Substances
  1. Storage
  2. Accountability

VII. Phases of Medication Activity

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VIII. Medication Interactions
- A. Intestinal Absorption
- B. Competition for Plasma Protein Binding
- C. Biotransformation
- D. Drug Metabolism
- E. Renal Excretion
- F. Drug – Drug Interaction

IX. Toxicity

X. Drug Terminology
- A. Antagonism
- B. Bolus
- C. Contraindications
- D. Cumulative Action
- E. Depressant
- F. Habituation
- G. Hypersensitivity
- H. Idiosyncrasy
- I. Indication
- J. Potentiation
- K. Refractory
- L. Side Effects
- M. Stimulant
- N. Synergism
- O. Therapeutic action
- P. Tolerance
- Q. Untoward effect

XI. Sources of Drugs
- A. Inorganic
  - 1. Minerals
- B. Organic
  - 1. Extracts
  - 2. Alkaloids
- C. Chemical
- D. Genetic
- E. Drug Forms
  - 1. Liquids
  - 2. Solids
  - 3. Gases

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XII. Pharmacological concepts
- A. Pharmacokinetics
  - 1. Absorption
    - a. Solubility
    - b. Bioavailability
    - c. Mechanism of Absorption
      - i. diffusion
      - ii. osmosis
      - iii. filtration
  - 2. Distribution
    - a. Drug Reservoirs
      - i. plasma protein binding
      - ii. tissue binding
    - b. Barriers to Drug Distribution
      - i. blood Brain Barrier
      - ii. placental Barrier
  - 3. Biotransformation
    - a. First Pass Metabolism
    - b. Active Metabolites
    - c. Inactive Metabolites
  - 4. Metabolism and Excretion
    - a. Organs of Elimination
      - i. kidneys
      - ii. intestine
      - iii. lungs
      - iv. exocrine glands
        - a) sweat
        - b) salivary
        - c) mammary
- B. Pharmacodynamics
  - 1. Mechanism of Action
    - a. Drug Receptor Interaction
      - i. agonists
      - ii. antagonists
      - iii. affinity
      - iv. efficacy
    - b. Drug Enzyme Interaction
  - 2. Medication Response Relationship
    - a. Plasma Levels
    - b. Biologic Half – life
    - c. Therapeutic Threshold
    - d. Therapeutic Index
    - e. LD 50
    - f. Factors Altering Drug Response
      - i. age
      - ii. sex

iii. body mass index
iv. pathologic state
v. genetic factors
vi. time of administration
vii. psychological factors
viii. predictable responses
    a) tolerance
    b) cross tolerance
ix. iatrogenic responses
x. drug allergy
xi. anaphylactic reaction
xii. delayed reaction ("serum sickness")
xiii. hypersensitivity
xiv. idiosyncrasy
xv. cumulative effect
xvi. drug dependence
xvii. drug antagonism
xviii. summation (addition or additive effect)
xix. synergism
xx. potentiation
xxi. interference
xxii. toxicity

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Pharmacology
Medication Administration

Paramedic Education Standard

Integrates comprehensive knowledge of pharmacology to formulate a treatment plan intended to mitigate emergencies and improve the overall health of the patient.

Paramedic-Level Instructional Guideline

The Paramedic Instructional Guidelines in this section include all the topics and material at the AEMT level PLUS the following material:

I. Routes of Administration
  A. Alimentary Tract
    1. Oral
    2. Sublingual
    3. Rectal
  B. Parenteral
    1. Topical
    2. Intradermal
    3. Subcutaneous
    4. Intramuscular
    5. Intravenous
      a. IV Bolus
      b. IV Piggyback
    6. Endotracheal
    7. Intraosseous
    8. Inhalational
    9. Intranasal

II. Administration of Medication to a Patient
  A. The “Rights” of Drug Administration
    1. Right Patient -- Prescribed to Patient
    2. Right Medication -- Patient Condition
    3. Right Route -- Patient Condition
    4. Right Dose -- Prescribed to Patient
    5. Right Time -- Within Expiration Date
  B. Drug Dose Calculations
    1. System of weights and measures
      a. Metric System
        i. prefixes
        ii. conversions

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2. Drug calculations
    a. Desired dose
    b. Concentration on hand
    c. Volume on hand
3. Calculate
    a. Volume-based bolus
    b. IV drip rate
    c. Weight-based IV bolus
    d. Weight-based IV drip

C. Techniques of Medication Administration (Advantages, Disadvantages, Techniques)
1. Peripheral Venous Cannulation
2. Intraosseous
3. Intramuscular (Manual)
4. Subcutaneous (Manual)
5. Aerosolized
6. Nebulized
7. Sublingual
8. Intranasal
9. Transtracheal
10. Intravenous Push/Infusion
11. Nasogastric
12. Rectal
13. Topical
14. Accessing Implanted/Central Intravenous Port

D. Reassessment
1. Data -- Indications for Medication
2. Action -- Medication Administered
3. Response -- Effect of Medication

E. Documentation

III. Standardization of Drugs
A. Techniques to assure purity and potency
B. Generic Drugs

IV. Medication Classifications
A. Phelebotomy
1. Procedure

B. Transfusion
1. Indications
    a. Transfusion Reactions
    b. Hemolytic Reaction
    c. Fever Reaction

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Pharmacology
Emergency Medications

Paramedic Education Standard

Integrates comprehensive knowledge of pharmacology to formulate a treatment plan intended to mitigate emergencies and improve the overall health of the patient.

Paramedic-Level Instructional Guideline

The Paramedic Instructional Guidelines in this section include all the topics and material at the AEMT level PLUS the following material:

The paramedic must know (to a complex depth) the names, mechanism of action, indications, contraindications, complications, routes of administration, side effects, interactions, dose, and any specific administration considerations, for all of the following emergency medications and intravenous fluids. Individual training programs have the authority to add any medication used locally by paramedic.

I. Specific Medications
- A. Activated Charcoal
- B. Adenosine
- C. Albuterol
- D. Amiodarone
- E. Amyl Nitrite
- F. Aspirin
- G. Atropine
- H. Dextrose (50%, 25%, 10%)
- I. Diazepam
- J. Diltiazem
- K. Diphenhydramine HCl
- L. Dopamine
- M. Epinephrine
- N. Fentanyl
- O. Glucagon
- P. Glucose
- Q. Intravenous Fluids
  1. Dextrose 5% in Water
  2. Normal Saline
  3. Lactated Ringer's
- R. Ipratropium
- S. Lidocaine
- T. Lorazepam
- U. Magnesium

V. Midazolam
W. Morphine
X. Naloxone
Y. Nitroglycerin
    1. Paste
    2. Spray
    3. Tablets
Z. Nitrous Oxide
AA. Oxygen
BB. Oxytocin
CC. Promethazine HCl
DD. Thiamine

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EMS Operations

Principles of Safely Operating a Ground Ambulance

Paramedic Education Standard

Knowledge of operational roles and responsibilities to ensure safe patient, public, and personnel safety.

Paramedic Instructional Guideline

The Instructional Guidelines in this section include all the topics and material at the AEMT level.

The intent of this section is to give an overview of emergency response to ensure EMS personnel, patient, and other's safety during EMS operations. This does not prepare the entry-level student to be an experienced and competent driver.

Information related to the clinical management of the patient during emergency response is found in the clinical sections of the National EMS Education Standards and Instructional Guidelines for each personnel level.

The Paramedic Instructional Guidelines in this section include all the topics and material at the EMR and EMT levels.

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EMS Operations
Incident Management

Paramedic Education Standard

Knowledge of operational roles and responsibilities to ensure safe patient, public, and personnel safety.

Paramedic-Level Instructional Guideline

Information related to the clinical management of the patient within components of the Incident Management System (IMS) is found in the clinical sections of the National EMS Education Standards and Instructional Guidelines for each personnel level.

I. Establish and Work Within the Incident Management System
   - A. Entry-Level Students Need to Be Certified in
     1. ICS-100: Introduction to ICS, or equivalent
     2. FEMA IS-700: NIMS, An Introduction
   - B. This Can Be Done as a Co requisite or Prerequisite or as Part of the Entry-Level Course

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EMS Operations

Multiple Casualty Incidents

Paramedic Education Standard

Knowledge of operational roles and responsibilities to ensure safe patient, public, and personnel safety.

Paramedic-Level Instructional Guideline

The intent of this section is to give an overview of operating during a multiple casualty incident when a multiple casualty incident plan is activated.

Information related to the clinical management of the patients during a multiple casualty incident is found in the clinical sections of the National EMS Education Standards and Instructional Guidelines for each personnel level.

The Paramedic Instructional Guidelines in this section include all the topics and material at the EMR and EMT levels.

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EMS Operations
Air Medical

Paramedic Education Standard

Knowledge of operational roles and responsibilities to ensure safe patient, public, and personnel safety.

Paramedic-Level Instructional Guideline

The intent of this section is to give an overview of operating safely in and around a landing zone during air medical operations and transport.

Information related to the clinical management of the patients during air medical operations is found in the clinical sections of the National EMS Education Standards and Instructional Guidelines for each personnel level.

The Paramedic Instructional Guidelines in this section include all the topics and material at the AEMT level PLUS the following material:

I. Medical Risks/Needs/Advantages
   - A. Risks
     1. Aircraft crash
     2. Usually more severe restrictions on the number of caregivers for the patient.
   - B. Needs
     1. Patient's condition would benefit by decreasing transport interval
     2. Patient requires time-sensitive assessment or intervention not available at local facility.
     3. Patient is located in area not accessible by ground EMS team or ambulance.
   - C. Advantages
     1. Decreased transport interval if transport distance is extreme
     2. Availability of highly trained medical crews
     3. Availability of specialized medical equipment

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